University of Alberta

Level of Educational Preparation, Professional Identity, and Four Dimensions of Interprofessional Collaboration

by

Jean Louise Miller

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy

Faculty of Nursing

Edmonton, Alberta

Fall, 2001

National Library of Canada
Acquisitions and Bibliographic Services
395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale du Canada
Acquisitions et services bibliographiques
395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-68974-3

Canada

University of Alberta

Library Release Form

Name of Author: Jean Louise Miller

Title of Thesis: Level of Educational Preparation, Professional Identity, and Four Dimensions of Interprofessional Collaboration

Degree: Doctor of Philosophy

Year this Degree Granted: 2001

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves all other publication and other rights in association with the copyright in this thesis, and except as herein before provided, neither the these or any substantial portion thereof may be printed or otherwise produced in any material form whatever without the author's prior written permission.

3223 Kenmare Crescent SW
Calgary, AB T3E 4R4

Date: Sept 17, 2001

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled 'Level of Educational Preparation, Professional Identity, and Four Dimensions of Interprofessional Collaboration' submitted by Jean Louise Miller in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Dr. Janet Ross-Kerr, Supervisor

Dr. Linda Reutter

Dr. Anne Neufeld

Dr. Herbert Northcott

Dr. Rene Day

July 13, 2001

Dr. Cynthia Cameron

Dedication

This thesis is dedicated to:

Many nursing colleagues and mentors who for the past 33 years have contributed to my professional and personal growth.

Students from all disciplines in Mount Royal College's Gerontology Certificate Program whose discussions sparked my curiosity in this topic.

My husband Leighton, my daughter April, and my mother-in-law Gertrude who once again supported me in reaching another educational goal. They know best the ups, downs, and plateaus of the last few years. It is particularly meaningful that April is completing her Masters in Archival Studies at the same time I finish this degree. What a wonderful celebration we will share.

Finally, I dedicate this work to my deceased parents, Hellny and Edgar Quine, who fostered in me the where-with-all to complete what I begin, and my maternal aunts, Ellsy, Gurly, Amy, Tensy, and Lily, my eternal role models.

Abstract

The proliferation of care providers, specialization, complex health problems, and pressures for cost containment are compelling professionals to work together collaboratively. Among the factors considered important for effective collaboration is educational preparation. It has been proposed that if nurses' educational preparation is in line with that of other professionals, collaborative, rather than hierarchical relationships will result. As there were no collaboration studies in which educational level was the primary variable of interest nor were there any addressing professional identity, a concept closely associated with educational preparation, these became the foci of this study.

A descriptive comparative survey design using a stratified random sample of nurses (diploma/baccalaureate prepared and masters/doctoral prepared) was carried out. The mailed survey contained tools assessing four dimensions of collaboration (mutual safeguarding of concerns, clarity about patient care goals, clarity of practice spheres, and power and control) and one assessing professional identity.

The findings of this study indicate that while both groups were likely to be effective collaborators, higher educational level did impact positively on three of the four dimensions. Those prepared at the Masters/Doctoral level were significantly more concerned about meeting others' needs as well as their own, had a stronger sense of power/control, and saw a stronger role for nursing on a number of patient care goals. The only relationships between professional identity and collaboration were two weak ones suggesting a potentially negative impact of higher educational level on collaboration.

The results of this study suggest that settings which rely on interprofessional cooperation (intensive care, geriatrics, rehabilitation) should include graduate prepared nurses in their staff mix, and that nurses working in such areas consider

graduate preparation in their career plans. The results pertaining to the Patient Care Goals instrument, as well as the links between role clarity, power/control, territoriality, and autonomy, reinforce that nursing should not lose sight of articulating its unique contribution to patient care. This study also reinforces the need for interprofessional experiences in entry to practice programs, and the inclusion of interprofessional leaning and research activities in graduate programs.

Acknowledgments

I wish to acknowledge my committee members who supported and challenged me along the way: Dr. Linda Reutter, Faculty of Nursing and Dr. Herb Northcott, Department of Sociology. Thanks also to Dr. Anne Neufeld, Faculty of Nursing; Dr. Margaret Haughey, Education Policy Studies; Dr. Rene Day, Faculty of Nursing; and Dr. Cynthia Cameron, Faculty of Nursing, University of Manitoba. Particular thanks to my supervisor, Dr. Janet Ross-Kerr, for her well-timed words of encouragement and her skill in guiding me through this process.

Sincere thanks to the faculty of the University of Alberta for sharing their expertise and time throughout my years of study. Particular thanks to Dr. June Kikuchi who helped me discover the importance of philosophy to nursing.

I want to acknowledge the support of the members of my Mount Royal College Director's Advisory Group: Dianne McDermid, Barbara Metcalf, Dr. Sharon Moore, Pam Nordstrom, Brenda Hendrickson, Kit McRae, and Norma Kenward. These six individuals provided the support and encouragement I needed when the goal seemed so far away. Thanks also to the support and sage advice of my classmates at the University of Alberta who have gone before me: Dr. Jeanne Besner, Dr. Jeanne Vanderzalm, Dr. Kathy King, Dr. Flo Myrick, and Dr. Donna Romyn.

Thanks to the following people who pre-tested my survey: Alison Mitchel, Pam Nordstrom, Judi Dixon, Neroli Brook, Lynn Esser, Dr. Marg Osborne, Sandi McMeekin, Karen Lasby, Chris Buijs, Millie Sidebottom, and Donna Michaels. Thank you to Dianne McDermid, Dr. Sandra Hirst, and Barbara Metcalf for assisting me in establishing content validity of the Practice Spheres instrument. I am grateful for the expertise of Sylvia Teare, Instructional Designer, in formatting the survey and April Miller, BA in English, for her editing.

I wish to acknowledge my colleagues at Mount Royal College who assisted me in carrying out this study: Norma Kenward for her assistance with correspondence, Brenda Templeton for her expertise in laying out the survey, Fran Quick for managing the 1-800

calls, Allan Starr and Keri Rak for their analysis expertise, and Jan Seeley in the mail room.

Thanks to the Alberta Association of Registered Nurses for allowing me access to their membership, and Dr. Jan Lander, Associate Dean of Research, University of Alberta for agreeing to field calls from study participants.

Thanks to Dr. Mark Kolodziej for his invaluable statistical advice.

Finally, sincere thanks to the nurses who participated in this study. I genuinely appreciate the time they took to complete the survey and their subsequent contribution to a greater understanding of interprofessional collaboration.

Table of Contents

	Page
Chapter One: Background to the Study	1
Introduction to the Problem	1
Purpose, Research Questions, and Significance of the Study	3
Theoretical Underpinnings	5
Interprofessional Collaboration: Concept and Influencing Factors	5
Role Theory, Professional Socialization, and Collaboration	7
Role Theory and Professional Role	7
Role Theory and Educational Socialization	9
Professional Socialization and Collaboration	12
Definition and Dimensions of Interprofessional Collaboration, and Assumptions	15
Chapter Two: Related Literature	17
Interprofessional Collaboration Research	17
Nurse-Physician Collaboration Studies	17
Collaboration Studies that Included Social Workers	25
Summary	29
Chapter Three: Method	30
Study Design	30
Study Sample	30
Instrumentation	31
The Instruments	32
Mutual Safeguarding of Concerns Instrument	32
Patient Care Goals Instrument	33
Practice Spheres Instrument	34
Power/control Instrument	35
Professional Identity Instrument	36
Survey Development and Testing	36
Data Collection Procedures	37
Data Analysis Procedures	38
Mutual Safeguarding of Concerns Analysis	39
Patient Care Goals Analysis	40
Practice Spheres Analysis	40
Power/control Analysis	41

Professional Identity Analysis 42
Chapter Four: Results 43
Participants' Educational and Professional Backgrounds 43
Educational Backgrounds 43
Professional Backgrounds 45
Years in Nursing 45
Area of Nursing 45
Place of Employment 46
Positions 49
Professions With Whom Participants Worked 50
Educational Preparation and the Four Dimensions of Collaboration 52
Educational Preparation and Mutual Safeguarding of Concerns 53
Educational Preparation and Patient Care Goals 54
Group Comparison of Aggregate Distribution of Responses by Goal Type (Primarily Nursing, Shared, Primarily Another's) 54
Group Comparison of Responses to Individual Items by Goal Type (Primarily Nursing, Shared, Primarily Another's) 55
Educational Preparation and Practice Spheres 59
Educational Preparation and Power/control 64
Group Comparison of Powerlessness Scores and Levels of Powerlessness 64
Professional Identity, Educational Preparation, and the Four Dimensions of Collaboration 65
Educational Level and Professional Identity 65
Four Dimensions of Collaboration and Professional Identity 65
Chapter Five: Discussion 67
Educational Level and Collaboration 68
Mutual Safeguarding of Concerns 68
Power/control 70
Patient Care Goals 71
Practice Spheres 74
Professional Identity, Educational Level, and Collaboration 78
Chapter Six: Conclusions, Limitations, and Implications 82
Conclusions 82
Study Limitations 83
Implications 84

Bibliography 88
Appendices: 95
Appendix A: The Survey 96
Appendix B: Letter to Participants 109
Appendix C: Reminder Postcard 112
Appendix D: Reminder Letter 114
Appendix E: Mutual Safeguarding of Concerns Scoring Grid 116

List of Tables

Table	Page
1. Number of Nursing Credentials Held by Each Group	44
2. Rank Order of Participants' Reported Areas of Nursing (Most Frequent to Least Frequent) for Each Group	47
3. Distribution of Each Group According to Place of Work	48
4. Positions Held by Participants in Each Group	50
5. Rank Order of Professions Worked With (Most Frequent to Least) for Each Group	51
6. Comparison of Mutual Safeguarding of Concerns Scores Using Mann Whitney	53
7. Comparison of Proportion of Each Group Having Each of the 5 Mutual Concern Scores Using the z Test	54
8. Group Comparison of Mean Number of Goals Considered to be Nursing, Shared, and Another's Using ANOVA	55
9. The 14 Patient Care Goals with No Significant Differences in the Proportions of the Groups Choosing Each Type of Goal (Nursing, Shared, and Another's) Using the z Test	57
10. The 14 Patient Care Goals with Significant Differences in the Proportions of the Groups Choosing Each Type of Goal (Nursing, Shared, and Another's) Using the z Test	58
11. Comparison of the Groups' Average Number of Consistently Scored Items (Own View and Others' View) Using the t Test	59
12. Comparison of the Proportion of Each Group with Consistent Answers (Own View and Others' View) Using the z Test	61
13. Group Comparison of Scores for Participants' Own View of Their Profession and Their Perception of Others' Views of Them Using the t Test	62
14. Group Comparison of Answers to Individual Practice Spheres Items for Their Own View of Nursing and Their Perception of Others' View of Nursing Using the z Test	63
15. Group Comparison of Powerlessness Scores Using the t Test	64
16. Group Comparison of Levels of Powerlessness (Low, Moderate, and High) Using the z Test	65

17. Group Comparison of Professional Identity Scores Using the t Test 66
18. Relationship of Each Group's Professional Identity Scores to the Four Dimensions of Collaboration Using Correlational Coefficients 66

List of Figures

Figure	Page
1. Highest level of educational preparation	45
2. Years of nursing experience	46
3. Years at place of employment	49
4. Years in current position	50

CHAPTER ONE

BACKGROUND TO THE STUDY

In this first chapter the problem addressed in this research is delineated and the theoretical underpinnings of the study are described. This is followed by the definition of collaboration used in the study and the subsequent dimensions of collaboration that were measured. The chapter ends with two assumptions underlying this research and an outline of the remainder of the study.

Introduction to the Problem

The need for interprofessional collaboration in health care has never been greater. The proliferation of professions, increasing specialization, the complexity of health problems, growth in the consumer movement, health care restructuring, and pressures for cost containment are compelling professionals to work collaboratively. Nurses are acutely aware of the importance of collaboration. Because their focus is holistic, they realize that proliferation and specialization can lead to fragmentation of care. They know that if they are to meet the complex needs of their patients they must be continually engaged in cooperative efforts with other health professionals. However, the process of professionalization and the realities of the work setting often mean that collaboration is at best given lip service, and at worst, ignored. This can lead to care that falls short of meeting patient needs, as well as frustration on the part of patients and professionals. The complexity of patient needs and of the health care system make this an untenable situation.

Although collaboration is considered to be important, little is known about what circumstances are most conducive to effective collaborative relationships (Siegler & Whitney, 1994). The literature indicates a wide range of factors that impact on interprofessional collaboration including role related factors such as gender, status, educational preparation, and role identity and perceptions, as well as contextual factors

such as setting (e.g. acute care, long term care, community) and care delivery models (e.g. case management, interdisciplinary teams, primary care). Most of the literature in the area is opinion pieces and descriptions of collaborative projects, with few research studies. Although further research needs to be done on all of these factors, this study focused on educational preparation. This focus was chosen because the profession needs to know whether educational level impacts on this important aspect of nurses' work. The results of this study can also be used in making decisions about the appropriate educational level for various nursing roles, for example, advanced practice roles. This is crucial because professional education is both costly and time consuming, particularly in a time of nursing shortages.

From an educational perspective, the literature suggests that if the level of educational preparation of nurses is less than that of other professionals, nurses will be dominated by them (Armstrong & Armstrong, 1996, Christman, 1991; Ryan & McKenna, 1994) and their interprofessional relationships will be hierarchical rather than collaborative (Alt-White, Charns, & Strayer, 1983; Weiss, 1985). It is thought that equality in educational status will lead to equality in professional status, which in turn will result in truly collaborative interprofessional relationships.

In the last decade of the 1900's the nursing profession made great strides in decreasing the educational gap between nurses and other health professionals. Nursing professional associations embraced the Bachelor Degree in Nursing as the standard for entry to nursing practice, and masters and doctoral education grew considerably. While it is reasonable to expect these developments will reduce the educational barrier to interprofessional collaboration, there is little empirical evidence to support this claim.

The problem addressed in this study is that to date, research does not inform whether educational preparation has an impact on nurses' collaboration with other health professionals. Although some studies of collaboration have considered educational preparation, there have been none in which this was the primary variable of interest.

Additionally, most studies of collaboration have been highly contextualized, focusing on a particular interprofessional relationship (e.g. nurse-physician or nurse-social worker), thus sharply limiting the generalizability of the findings. What is needed is a study in which nurses' education is the primary variable of interest, one not restricted to a particular context or professional relationship.

Purpose, Research Questions, and Significance of the Study

The primary purpose of this study was to discover if level of nursing education (initial preparation as opposed to graduate preparation) impacts on nurses' perceptions of their collaboration with other health professionals. The study is grounded in role theory and is based on the assumption that each health profession has a unique perspective and makes a unique contribution to care. Professionals learn their respective roles through a process of socialization, wherein they take on the values and expertise that differentiate their profession from that of others. It is thought that the more disciplinary education an individual has, the more highly ingrained will be the norms, values, and behaviors of that role. As professional role identity is thought to impact on collaboration, this research also sought to discover if there is a relationship between perceptions of collaboration and professional role identity.

The research questions that guided this study were:

1. How do two groups of nurses (Diploma/Baccalaureate prepared and Masters/Doctoral prepared) perform on four instruments assessing specified dimensions of collaboration, and one assessing professional role identity?

2. Are there significant differences between the groups on instruments assessing four dimensions of collaboration, and on one assessing professional role identity?

3. Is there a relationship between each group's professional identity scores and those on the instruments assessing the four dimensions of collaboration?

The significance of this study lies not only in its contributions to nursing research, education, and practice, but also its potential impact on patient care. Research has shown collaboration to contribute positively to patient outcomes. For example, Feiger and Schmitt (1979) reported less decline in functional status and improved physiological, physical, social, and emotional health outcomes among diabetic patients randomly assigned to interdisciplinary team care compared to those not assigned to such care. Baggs and Mick (2000) noted that in two studies, Baggs and her colleagues have shown a relationship between nurses' reports of collaboration with physicians around discharge from ICU, and fewer deaths and readmissions. Such research underscores the importance of knowing whether educational preparation impacts on perceptions of collaboration.

From a research perspective, this study addresses the gaps in the literature pertaining to educational preparation and collaboration, as well as to professional identity and collaboration. Because this study involved a large randomized sample of nurses, the generalizability of the findings will be greater than studies that are highly bound by context. Also, by further refining and testing previously developed instruments, the battery of reliable and valid research tools will be strengthened. From an educational perspective, this study will inform nurse educators as they strive to design programs that foster both discipline specific and interdisciplinary skills. It will be useful to individual nurses in planning their career goals, as well as to employers in planning their staffing needs. Finally, this study has the potential to shed light on the current role of nursing in health care. This is particularly important at this time in nursing's history as not only are nurses required to turn outward and become more collaborative, but also to turn inward to substantiate their particular contribution to health and health care.

Theoretical Underpinnings

Collaboration is a complex concept that entails several dimensions, as well as a number of influencing factors. The concept is introduced here, along with an overview of the factors thought to impact on its success. In this study two perspectives of role theory (functionalist and symbolic interactionist) are used as the basis for understanding socialization into the professional role of 'nurse'. These perspectives are used to explain professional socialization within the context of interprofessional collaboration.

Interprofessional Collaboration: Concept and Influencing Factors

Collaboration in health care is typically thought to involve cooperative joint efforts aimed at meeting patient/client needs in a comprehensive manner. Such efforts usually involve professionals from medicine, nursing, social work, the therapies, and pharmacy. These professionals bring their unique disciplinary perspectives to a problem-solving situation where ideas are integrated and the resulting plan of care is one that would not have evolved without their collaborative interaction. Henneman, Lee, and Cohen (1995) did a concept analysis of collaboration and identified the following defining attributes: joint venture, cooperative endeavor, willing participation, shared planning and decision-making, team approach, contribution of expertise, shared responsibility, non-hierarchical relationships, and shared power. Pehl (1988) reviewed definitions of collaboration in the behavioral science and nursing literature and found the following common elements: willing cooperation, positive interaction, active participation, and approximate equality of influence. According to Siegler and Whitney (1994) most definitions of collaboration include cooperative planning and decision-making, mutuality, accountability, expertise, and common goals and responsibilities. There is considerable overlap in these descriptions suggesting reasonable congruence of thought about this concept.

According to the literature, interprofessional collaboration is impacted by a number of factors: personal attributes, contextual attributes, and professional role. Individual professionals must possess the readiness to collaborate (Henneman et al, 1995), and have a positive (Steel, 1986), confident (Henneman et al) attitude about themselves. They must trust and respect other professionals (Jones, 1991; Steel), be able to share (Jones), listen and communicate honestly (Jones), and have a genuine desire to satisfy the needs of their coworkers as well as their own (Siegler & Whitney, 1994). The environment must be one in which collaboration is championed by visionary leaders who believe in the concept (Henneman et al). A bi-directional and complementary work environment, rather than one that is hierarchical and subordinate is required (Fagin, 1992; Siegler & Whitney). The organization or group needs to have common goals (American Nurses Association, 1980; Ardine & Pridham, 1973; Ivey, Brown, Teske, & Silverman, 1988; Jones) and good group dynamics (Henneman et al). Additionally, mutual power should be valued by all (American Nurses Association; Jones), and status and power should be dynamic and flexible (Weiss, 1985).

With respect to professional role, the factor of interest in this study, the literature indicates that in order to collaborate effectively, professionals must have a thorough understanding of their unique role (Benson & Ducanis, 1995; Henneman et al, 1995; Jones, 1991; Mariano, 1989). Mariano notes professionals who understand their roles will be able to communicate how their disciplinary strengths, limitations, and contributions relate to the work of the team as a whole. She contends "security in one's own discipline allows each member the freedom to be truly interdisciplinary" (p.286). Professionals also need a good understanding of others' roles (Jones; Northouse & Northouse, 1992; Steel, 1986) and in addition to recognizing their own boundaries and those of others, they must also be able to accept areas of role overlap (American Nurses Association, 1980; Jones). It is thought that professionals who are confident in their own

roles will be more comfortable with role overlap, and according to Kertesz (1980), less defensive when others appear to be encroaching on their territory.

Role Theory, Professional Socialization, and Collaboration

Biddle (1986) outlines five different perspectives on role theory: functionalist, symbolic interactionist, structural, organizational, and cognitive role theory. Those most frequently referred to in the health literature, and considered relevant to this study are the first two: functionalist and symbolic interactionist. These perspectives are used to explain professional role and educational socialization into the nursing role. The section concludes with a discussion of the impact of the socialization process on interprofessional collaboration.

Role Theory and Professional Role

Both the functionalist and interactionist perspectives of role theory contribute to an understanding of professional role within the context of collaboration. Professional role is embedded in the sociological construct of role theory, which is a way of understanding characteristic patterns of human social behavior (Biddle, 1986). These characteristic patterns are known as roles. Individuals are socialized into a number of roles, for example as parent, spouse, or health professional. For each role they learn the appropriate role behaviors, as well as how they should act towards others and what they can expect from others in return (Hurley-Wilson, 1988). The professional nursing role pertains to the "set of norms, rules, and expectations which are a function of the status of nurse, and prescribe how any person occupying that status ought to behave" (Skipper, 1962, p.42).

From the functionalist perspective, roles are social facts that are more or less fixed in character and dictate an acceptable way of behaving (Conway, 1988b). According to Conway, objects or people act as stimuli on the individual, with the response being

appropriate role behavior. The relationship that exists between roles and society is likened to the relationship between organs and the body: as the body requires functioning organs in order to survive, so too society requires effective role performance (Conway). Conway notes that from the functionalist perspective, the more complex the social unit, the greater differentiation there will be among roles; the breadth of health professions attests to the complexity of the current health care system. In the functionalist perspective the role of each profession is considered to be stable, with a defined set of behaviors that are considered appropriate for that role and its assigned status (Conway). This view implies role clarity and predictability of action, both considered important to effective interprofessional collaboration. Functional role theory was dominant until the mid 1970's (Biddle, 1986) but in recent times has come under criticism. Biddle (1986) notes the prescriptive nature of this perspective does not account for the changing nature of present day societal structures. With respect to collaboration, it does not take into account the current state of flux in health care or the need for role flexibility and equality of status.

The symbolic interactionist perspective evolved over the last half of the 20th century. Here the emphasis is on the meaning attributed to role behavior, rather than on objectively defined behaviors (Conway, 1988b). Society is seen as the skeletal framework within which individuals act out their roles. The individual takes cues from the environment, interpreting them in a personal way, which leads to actions that are unique for that individual in that situation (Conway). Roles are not prescribed by social structure, but rather arise from the individual's definition of the situation and through the process of role negotiation (Biddle, 1986). In this view, role behavior is considered to be individualized, fluid, and negotiated (Hardy & Hardy, 1988). The equality of status and role flexibility required for effective collaboration can best be understood from this perspective. However, it does not take into account the need for common goals, or for role clarity and predictable expectations around role activities. Additionally, Conway

notes that in complex bureaucratic structures the opportunity for, and practicality of, individual role creation and negotiation is limited. Although these two views of professional role are often considered to be competing perspectives, Conway indicates theorists are now attempting to develop conceptual frameworks that include elements of both. She states, "neither ...perspective alone adequately accounts for the wide variety of human responses possible in the numerous and ambiguous situations where human actors confront each other" (p.72). Given the complexity of collaboration and the range of factors thought to impact on its success, both theoretical perspectives are relevant to this study.

Role Theory and Educational Socialization

The functionalist and interactionist perspectives of role theory are also useful in explaining the role socialization that occurs in both initial and graduate nursing education. The foundation of a professional's role identity is established in the entry educational program and continues to evolve over the years of professional life (Lum, 1988). This identity results from a process of socialization which involves the learning of role content (skills, knowledge, behavior) and the internalization of the norms, values, and attitudes required to attain professional status (Hurley-Wilson, 1988; Lynn, McCain & Boss, 1989). Maltby and Andrusyszyn (1997) refer to this foundation as a developmental process in which students change their values and attitudes as they progress through their program of studies. The end result is a graduate who has not only the requisite skills, but also the identity of a 'nurse'. This initial socialization occurs in entry level nursing programs (Diploma or Baccalaureate degree) whose graduates are considered to be generalists as they have a "general knowledge of nursing"(Calkin, 1988, p.283) and engage in "common practice skills" (p.283). They practice nursing in a variety of settings, most often in staff nurse positions. At this level of education nurses learn to appreciate and apply nursing theory, are introduced to nursing research and, with

direction, can apply it to practice (Stinson, Field & Thibaudeau, 1988). While it is true that educational programs are not all the same and the level of learning varies from one individual to another, legislated professional and educational standards ensure at least a minimal standard of acceptable role performance.

Hurley-Wilson (1988) indicates that roles are learned through two processes: learning and interactional. Learning processes involve observational experience, and explicit training and evaluation, resulting in reasonable conformity to role expectations, while interactional processes involve role negotiation (Hurley-Wilson). These processes suggest that both the functionalist and symbolic interactionist perspectives of role theory are at play throughout a nurse's initial educational experience. Reutter, Field, Campbell, and Day (1997) found this to be true. These authors reported on one aspect of a qualitative longitudinal study exploring how students in a four year baccalaureate nursing program become socialized into nursing. They described the functionalist perspective as students playing a more passive role with the norms, values, and behaviors being transferred to them by socializing agents (faculty, nurses in practice settings, and peers). In contrast, the interactionist perspective entailed students playing an active role in an ongoing process of 'situational adjustment' in which the value systems of the school, the practice setting, and the student are not necessarily the same. One of their findings was that the functionalist perspective predominated in the first year while the interactionist perspective predominated in subsequent years.

It is likely both perspectives of socialization are also inherent in graduate education. From a functionalist perspective, graduate students develop new knowledge and skills in nursing theory, research, and practice. At the Master's level, the focus is on advanced practice skills (CAUSN, 2001). Students analyze and critique theory and research, develop beginning research skills, integrate theory, research and practice, and implement research findings (CAUSN, 2001). At the Ph.D. level, these skills are further advanced, with nurses building theory and advancing nursing knowledge (CAUSN, 2001). The

interactionist perspective is evident in two articles, one by Lynn et al (1989), the other by Maltby and Andrusyszyn (1997). Lynn et al examined whether Diploma prepared RNs enrolled in a Baccalaureate program became socialized/resocialized into nursing. They measured professional socialization with an instrument based on social learning theory which they described as focusing on reinforcement of the learner by a "role incumbent or other appropriate person" (p.233). They found no significant difference in scores, and by way of explanation they indicated that while social learning theory may be appropriate for novice nursing students, symbolic interactionist theory may be more appropriate for socialization studies involving nurses pursuing higher education. Maltby and Andrusyszyn challenged the idea that Registered Nurses pursing their degree become resocialized into the profession. Rather, they suggest 'perspective transformation' is a more appropriate lens. This perspective involves empowerment through the construction of new meaning and ultimately changed behavior. Although both Lynn et al, and Maltby and Andrusyszyn were referring to Diploma prepared nurses enrolled in Baccalaureate nursing programs, their views on the socialization of nurses completing a second nursing credential support the idea of an interactionist perspective in graduate education.

Because nurses with advanced nursing credentials have been immersed in nursing education and the profession longer, it is thought that they will have stronger professional role identity than those prepared at a lower educational level. This anticipated relationship between professional identity and educational preparation is evident in role orientation and socialization research (Corwin, 1961; Hillery, 1991; Kramer, 1968; Stemple, 1988). Corwin and Kramer both found that nurses prepared at the Baccalaureate level had higher professional role conceptions than did non-Baccalaureate prepared nurses. Stemple found a significant difference in nursing care role orientation between Associate degree and Baccalaureate degree nurses, as well as between Baccalaureate degree and Masters degree

nurses. Hillery examined factors associated with professional role socialization and found there was a direct link to educational preparation.

Professional Socialization and Collaboration

The intended outcome of the professional socialization process is professionals who are clear about their respective roles, and as a result have a sense of power and control in their work environments. The extent to which these outcomes are likely to be realized is discussed. As noted earlier, in order to collaborate effectively, nurses must be clear about their unique professional role and be able to communicate that role to others. Such clarity stems from professional identity and is the foundation for interaction with other health professionals (Loxley, 1997). However, the extent to which nurses are clear about their unique perspective is questionable. In Weiss's (1983) study of role differentiation between nurses and physicians, 72 nurses, consumers, and physicians engaged in a series of dialogue sessions for the purpose of reaching consensus about how nursing practice was uniquely different from medical practice, and where there was overlap between the two. The results revealed that the nurses considered most of their responsibilities to overlap with those of physicians, with none being unique to nursing. In The Netherlands, Verschuren and Masselink (1997) examined congruence between role concepts and role expectations of nurses, physicians, and patients in two hospitals. Role concept pertained to the view of one's own tasks and functions, while role expectations had to do with the view of others' tasks and functions. While there was a good deal of correspondence between role concept and expectations for physicians, there was not for nurses. Verschuren and Masselink indicate this lack of congruence may have a negative impact on nurses' job satisfaction as well as their collaboration with physicians, and ultimately the quality of patient care.

If mutual power/control is to exist in collaborative endeavors professionals must bring their own sense of power and control to their interprofessional relationships.

Loxley (1997) states professional power comes from the professions' ability to establish autonomy and control over its domain. She suggests that in aspiring for higher educational qualifications nurses will have better control over their destinies and will be better equipped to compete with doctors and managers. As Booth (1983) notes, "no other source of power is as enduring and strong as one that is built on knowledge and expertise" (p.11). However historically, nurses have perceived themselves as having relatively little power in their work situations (Aulbach,1983; Bush, 1984; Daghestani, 1991; Po, 1985; Reinhart, 1988). In conjunction with Weiss's 1983 study described above, Weiss and Remen (1983) used grounded theory to identify interactional barriers and supports to collaboration between nurses and physicians. Twenty-three categories of data reflected nursing powerlessness, of which 15 resulted from the behaviors of the nurses themselves. From these categories, three patterns that hinder nurses' collaboration with physicians were identified. The first was a lack of identification with the nursing profession. Unlike the physicians, the nurses viewed nursing as a job or occupation. The second pattern was invalidation of professional expertise. Regardless of age, educational background, or practice area, nurses considered their contributions to be based on common sense rather than on professional knowledge, often speaking from personal experience as a health care consumer. The third pattern was a reluctance to assume greater responsibility. Generally, nurses lacked initiative and leadership, and while they acknowledged powerlessness, they expected physicians to correct the situation by becoming less powerful and assertive. As a sense of power is considered important in collaborative relationships these findings do not bode well for nurses.

However, some research has shown that nurses with higher levels of education have a greater sense of power and control. Tibbles (1983) ex post facto study investigated factors that explained variance in perceptions of powerlessness in nurse managers in an acute care hospital. She found significant negative correlations between powerlessness and educational level, as well as age. She noted however, that because these variables

accounted for just 3.2% of the variance for sense of power, the relationships had little practical value. Bush (1984) surveyed staff nurses in acute care hospitals to determine the direction and strength of the relationship between locus of control, powerlessness, and job satisfaction. She also wanted to know if level of educational preparation made a significant difference to these variables. Her findings indicated that Baccalaureate prepared nurses were significantly lower than Diploma prepared nurses in locus of control and powerlessness. These findings give some credence to the idea that nurses with advanced educational preparation will be better prepared to collaborate than those without such preparation.

Although professional socialization has the potential to contribute positively to collaboration, many acknowledge that the process limits opportunities for collaborating, and perhaps even the willingness to collaborate (Ducanis & Golin, 1979; Kane, 1975; Mariano, 1989; Northouse & Northouse, 1992; Siegler & Whitney, 1994). As noted earlier, the purpose of the educational socialization is to produce graduates with disciplinary knowledge and skills who can independently practice their professions in a safe and competent manner. This process not only ensures an acceptable level of role performance, but according to Lum (1988), it is important to the very survival of the professions. This emphasis on independence in entry programs leaves little room for interprofessional learning. The situation may be further exaggerated at the graduate level. Petrie (1976) suggests that because academia reinforces a "narrow, albeit incisive, disciplinary focus" (p.33), graduate education may hinder, rather than foster, interprofessional collaboration. He indicates that in order for interdisciplinary endeavors to succeed, individuals must have a good balance between disciplinary competence and security, and broad interests and imaginative speculation. According to Petrie, because graduate education is even more specialized than undergraduate, students often don't have the interest or the time to be committed to interdisciplinary efforts. It is anticipated

this study will shed some light on whether professional socialization has a positive or negative impact on interprofessional collaboration.

Definition and Dimensions of Interprofessional Collaboration, and Assumptions

As noted earlier, collaboration is a complex concept that is not only difficult to define, but is impacted by a number of professional, personal, and contextual factors.

The definition of collaboration used is this study is that of the American Nurses Association (1980):

> Collaboration is a true partnership, in which power on both sides is valued by both, with recognition and acceptance of separate and combined spheres of activity and responsibility, mutual safeguarding of the legitimate interests of each party, and a commonality of goals that is recognized by both parties. (p.7)

This definition was chosen because it captures the range of descriptors and attributes of interprofessional collaboration found in the literature, it is one that is commonly shared and communicated, and its dimensions have been studied by others.

The four dimensions of collaboration that have evolved from this definition are: mutual safeguarding of concerns, patient care goals, practice spheres, and power/control. These dimensions refer to the attributes health professionals must bring to their interprofessional relationships: 1) a desire to meet their own needs as well as those of others, 2) clarity as to which patient care goals are theirs, which are the purview of others, and which are shared, 3) clarity around practice spheres, and 4) their own sense of power and control. As these four dimensions were considered to be inclusive with respect to the above definition, they were used as the basis for measurement of collaboration.

There are two assumptions underlying this study. The first pertains to the nature of collaboration. The study is based on the premise that individuals bring their professional

role attributes (educational preparation and role identity) to their collaborative endeavors, and the manner in which these attributes are brought to bear varies from one situation to another. While it is acknowledged that collaboration is also impacted by contextual and interpersonal factors, it is assumed there is a degree of stability in professional role attributes regardless of context. The second assumption pertains to the self-reported data collected for this study; it is assumed that participants perceptions of their collaboration with others is a reasonable representation of what happens in practice.

The literature pertaining to this study is presented in Chapter Two, followed by the Method and Results chapters, and concluding with the Discussion (Chapter Five), and Limitations, Conclusions, and Implications (Chapter Six).

CHAPTER TWO

RELATED LITERATURE

Collaboration studies typically address one or more of the factors thought to impact on interprofessional collaboration: personal attributes, contextual attributes, and professional role. The focus of this review is studies involving professional role factors, including those that addressed educational level.

Interprofessional Collaboration Research

The majority of interprofessional collaboration studies have focused on nurse-physician collaboration, with relatively few addressing nurses' collaboration with other health professionals. Nine studies of nurse-physician collaboration are described followed by three that were not restricted to this particular interprofessional relationship.

Nurse-Physician Collaboration Studies

The motivation behind the relatively large number of nurse-physician studies appears to be generated by nurses' concerns about gender and status barriers that undermine their relationships with physicians. While many of these studies acknowledge that equality in educational preparation will help break down these long standing barriers, to date they neither substantiate or refute the idea that educational level impacts nurses' collaboration with physicians. As part of a multi-study research project Sandra Weiss and associates developed a collaborative care model and tested the impact of multi- disciplinary dialogue on role conceptions of nurses, physicians, and consumers. One of the studies in this project is described, along with Weiss's work in establishing the validity and reliability of her Collaborative Practice Scales. Rebecca Jones' doctoral dissertation is the only research that included all four ANA dimensions of collaboration. Anna Alt-White, Martin Charns, and Richard Sayer carried out a multiphase action research project that evaluated and made recommendations about patient unit effectiveness. The study that focused on

nurse-physician collaboration is described here. Four studies of nurse-physician collaboration done by Judith Baggs and associates are presented, as well as one phenomenological study by Cynthia Arslanian-Engoren.

Weiss and associates conducted a number of studies of nurse-physician collaboration in which they suggest a relationship between collaboration and educational level. They described collaboration as involving a high degree of both assertiveness and co-operativeness, such that the concerns of both parties are given equal consideration in decisions around patient care.

Using a pretest-posttest control group design, Weiss (1985) compared the beliefs and values of an experimental group of 72 individuals (24 nurses, 24 physicians, and 24 consumers) with those of both a matched control group and a random group who did not participate in the dialogue sessions. In the nursing group, 8 had Associate degrees, 9 had Baccalaureate degrees, 5 had Masters degrees, and 2 had Doctoral degrees. The control group was matched on age, sex, educational background, socioeconomic status, ethnicity, and type of health care experience. The random group was selected from the phone book, as well as nursing and medical rosters. The experimental group, which was divided into four smaller groups, attended 20 monthly discussions pertaining to the need for collaboration. Weiss speculated these discussions would lead to collaborative values predominating over traditional hierarchical values. Participants completed three instruments at the beginning and the end of the study: the Management of Differences Exercise developed by Thomas and Killman (1978), the Multidimensional Health Locus of Control Scales developed by Wallston, Wallston, and Devellis (1978), and Weiss and Davis's (1983) Health Role Expectations Scale. The findings revealed that the intervention (dialogue sessions) did not bring about the expected results, but rather unexpected negative results occurred. The experimental group was the only group with a significant increase in their belief that powerful others influence the health care system. Although all three groups showed a decline in their beliefs regarding the value of shared

responsibility, only the experimental group showed a significant decline in the amount of responsibility nurses should have, with that difference resulting from changes in the views of the nurses themselves. Additionally, the nurses use of collaboration was reported to decline. Weiss suggests that if her nurse participants had been more highly educated, these negative findings may not have occurred.

Weiss based the above suggestion on the results of another study carried out by herself and Davis (Weiss & Davis, 1985) in which they established the validity and reliability of their Collaborative Practice Scales (one scale for nurses and the other for physicians). A random sample of 95 nurses and 94 physicians completed the scales. Sixty-eight percent of the nurses had a Baccalaureate degree, 10% had a Masters Degree and the remaining 22% had a Diploma or Associate degree. For the nurses, educational level and type of professional responsibility were predictive of their performance on the scale. Nurses with Baccalaureate degrees or higher had significantly higher collaboration scores than those with Diplomas or Associate degrees, and those with education, administration, and research positions scored significantly higher than staff nurses.

Jones (1991) also studied nurse-physician collaboration. She wanted to know if nurses and physicians differed in their perceptions of four collaboration indicators, and whether any of these indicators were related to each other, or to educational preparation and other demographic characteristics. A random sample of 59 nurses and 67 physicians completed a mailed survey that measured the four collaboration indicators as defined by the American Nurses' Association (1980): 1) mutual power/control, 2) practice spheres, 3) mutual safeguarding of concerns, and 4) common patient goals. Jones used an adapted version of Weiss and Davis's (1985) Collaborative Practice Scales to measure mutual concerns, and for power/control she developed a communication scale based on Feiger and Schmitt's (1979) direct observation methodology. She also developed instruments to measure practice spheres and common patient goals. Validity and reliability of these instruments were reported. In this study 16 (21%) of the nurses had a

Diploma in nursing, 19 (25%) had an Associate degree, 30 (40%) had a Bachelors degree in nursing or another field, and 11 (14%) had a Masters degree in nursing or another field.

Although there were no statistically significant differences with respect to nurses and physicians perceptions of the power/control and mutual concerns indicators of collaboration, there were for the practice spheres and goals indicators. Nurses who were less collaborative with respect to power/control were also less collaborative on practice spheres and goals, while physicians who were less collaborative on mutual concerns were also less collaborative on practice spheres.

For educational level, the only statistically significant differences were for the physicians. For 6 of the 24 patient care goals there were significant differences in the distribution of answers (RN, MD, Joint) for physicians with post-medical degrees, with the most common shift in distribution being from Joint goals to RN goals. The relationships between other demographic variables, and practice spheres and goals led Jones to conclude that nurses aged 32-42 and occupying leadership positions, such as charge nurse or team leader, were more likely to be less collaborative.

Jones noted that the findings of her study may not be generalizable to nurses and physicians in other geographic locations. She also noted a number of improvements that need to be made to the instruments. Additionally, the return rate on her survey was low; two mailings were sent to a total of 600 physicians and 400 nurses, with the overall response rate of 19% for nurses and 13% for physicians.

Alt-White et al (1983) examined the effect of personal, organizational, and managerial factors on nurse-physician collaboration in a large teaching hospital. One of the personal factors they studied was whether nurses with Baccalaureate degrees collaborated more with physicians than those with Diplomas or Associate degrees. They speculated that the broad educational background of Baccalaureate nurses would result in a broader, more professional view of nursing, and therefore greater collaboration. They also investigated

the relationship of collaboration to length of experience and a number of contextual factors. In their study, collaboration was defined as a process of working together in a balanced relationship in which there is mutual trust. Four hundred and forty-six nurses from 46 patient care units responded to a survey that measured staff satisfaction, communication processes, organizational stress, and nurse-physician collaboration. Reliability and validity for this instrument were not reported. Pearson correlation coefficients were used to discriminate statistically significant relationships.

Alt-White et al (1983) thought the confidence that comes with experience, as well as increased opportunity for developing relationships with physicians, would lead to greater collaboration. However, they found the opposite; there was a weak inverse relationship between length of experience and collaboration. Significant positive relationships were found for most of the contextual factors examined: units using primary nursing, critical care units (as opposed to non-critical care units), effective communication processes, low organizational stress, and several coordination approaches. Educational background was coded into three categories: Diploma/Associate degree, Baccalaureate nursing degree, and Masters in nursing or higher. The number in each category was not reported. There was no relationship between collaboration and educational level. Alt-White et al suggest that this does not mean Baccalaureate education does not contribute to collaboration, but rather that educational level is not the only contributing factor. As positive correlations were found for most of the contextual factors, it may be that such factors are more influential than personal factors such as education and length of employment. However, as no information was given about how collaboration was measured, it may be that the instrument was not valid or reliable enough to detect a difference.

Baggs and associates have conducted a number of studies of nurse-physician collaboration on intensive care units. In these studies, collaboration was defined as open discussion and shared responsibility in problem solving and decision-making. Two studies that investigated the relationship of collaboration to nurse satisfaction in decision-

making are described, followed by one grounded theory study and one pertaining to patient outcomes.

Motivated by the need to retain nurses on critical care units experiencing acute staffing shortages, Baggs and Ryan (1990) investigated the importance of collaboration to nurse satisfaction, and the relationship of collaboration and satisfaction to education, experience, and advanced practice. Their descriptive study was conducted on one Medical ICU in a large university medical center. Sixty-eight nurses completed a survey that included Weiss and Davis's (1985) Collaborative Practice Scale, an Index of Work Satisfaction developed by Stamps and Piedmonte (1986), and a Decision About Transfer scale that measured satisfaction about decisions made to transfer patients out of ICU. In this study, 44% of the nurses had a Diploma or Associate degree, and 46% had a Baccalaureate degree. (The preparation of the other 10% was not reported.) Correlation and multiple regression were used to analyze the data. While the results showed a high correlation between satisfaction in specific decision-making situations and collaboration, there was no relationship between general collaboration and overall job satisfaction. Experience and educational level were not related to collaboration or work satisfaction. However, older nurses (who coincidentally had lower levels of education) though equally if not more collaborative than the younger nurses, tended to be less satisfied.

Baggs and Schmitt's (1995) study of decision-making about level of aggressiveness of care (LAC) in ICUs yielded similar results. In this study they investigated factors that nurses and physicians considered important in influencing beliefs about LAC decisions, and whether general perceptions of collaboration influenced beliefs about the inclusion of others in decision making. Fifty-seven RNs and 33 physicians from one urban hospital medical intensive care unit completed the Weiss and Davis's (1985) Collaborative Practice Scales, two instruments measuring decisions about aggressiveness of patient care (general and for specific patients), and one measuring collaboration and satisfaction regarding decisions about aggressiveness in specific situations. Fifty-one percent of the

nurses had at least a nursing Baccalaureate degree. Although Baggs and Schmitt found no correlation between collaboration and inclusiveness in LAC decisions, perceived collaboration in specific situations was moderately related to general collaboration and strongly related to satisfaction about the decision-making process.

Baggs and Schmitt (1997) used grounded theory to compare perceptions of the process of collaboration between 10 nurses and physicians from one MICU. The major findings were two antecedents to the core of collaboration (working together) which they called 'being available' and 'being receptive'. 'Being available' pertained to dimensions of time, place and knowledge, and 'being receptive' pertained to respect and trust along with an interest in collaborating conveyed through a number of communication techniques. Participants also described situations of non-collaboration where power disparity became evident.

The relationship of collaboration to patient outcomes was also of interest to Baggs and associates. In 1992, Baggs, Ryan, Phelps, Richeson, and Johnson published the results of an ICU study that investigated the relationship of nurse-physician collaboration to patient outcomes. They hypothesized that reports of collaboration regarding patient transfer decisions would be positively associated with patient outcomes, and that the more transfer choices there were, the stronger the relationship would be. They also investigated nurse and physician satisfaction with the decision-making process. Two hundred and eighty six transfer decisions involving 56 nurses and 30 physicians from one large medical intensive care unit were studied. They used the Decision About Transfer Scale (DAT), establishing content and face validity as well as low to moderate criterion-related validity with two other instruments, the Weiss and Davis (1985) Collaborative Practice Scales, and the Index of Work Satisfaction (Stamps & Piedmonte, 1986). Severity of illness was controlled for using a valid and reliable instrument. Negative patient outcomes were death or readmission to the ICU. Statistical power was approximately 70% for detecting a 2% increase in variance of patient outcome attributable

to collaboration (p=.05). Logistic multiple regression was used to determine the association of reported collaboration and patient outcomes, as well as collaboration, available alternatives, and their interaction with outcomes. Baggs et al reported that 43% of the nurses had Diplomas or Associate degrees, 46% had Baccalaureate degrees, and 9% had Masters degrees.

The study revealed that while the amount of collaboration reported by the nurses was significantly and positively associated with patient outcome, the same was not true for physicians. (This significant relationship persisted when outcome was regressed on the instrument measuring severity of illness.) For nurses, the more alternatives, the stronger the association. Satisfaction with decision-making was significantly associated with collaboration for both groups, a strong relationship for the nurses and a weak to moderate one for the physicians. Baggs et al suggest that nurses and physicians may not have given collaboration the same meaning and importance. Nurses may have seen collaboration as a way of influencing decision-making, while physicians may have thought it unimportant because of their ultimate authority around transfer decisions.

Arslanian-Engoren (1995) conducted a phenomenological study of CNSs (Clinical Nurse Specialists) who collaborated with physicians. She observed that most of the research on nurse-physician collaboration involved staff nurses, rather than those prepared at an advanced level. In her view, the advanced education and clinical experience of CNSs would enhance collaboration with physicians. The purpose of the study was to examine the phenomenon of CNS-physician collaboration by describing nurses' lived experiences and determining the "essential component of collaboration needed by the CNS to facilitate enactment of the clinical expert role" (p.69). Taped participants' descriptions of the meaning of collaboration with physicians were transcribed and analyzed for themes. Five themes arose: 1) experiences mutual trust and respect, 2) defines practice role as a complex process, 3) establishes collegial relationships, 4) maintains a nursing perspective, and 5) lives a positive experience.

Participants said their advanced educational and clinical experience enhanced their ability to collaborate with physicians. They acknowledged this wasn't always easy but through persistence and a complex evolutionary process, they were able to establish themselves in collegial relationships. Participants were resolute in their commitment to nursing, focusing on the patient's response to illness and disease, and offering clinical advice in solving nursing problems. Arslanian-Engoren noted participants' satisfaction in attaining what they viewed as truly collaborative relationships.

Collaboration Studies that Included Social Workers

The predominance of nurse-physician collaboration studies, though informative to that particular relationship, may not be a true indication of the influence of educational level on nurses' collaboration in the broader health care arena. For example, the disparity in educational level between nurses and physicians is less evident between nurses and other professionals such as social workers or physiotherapists. Nor are the gender and status issues as predominant. There has been some research on collaboration between nurses and social workers. Here the literature suggests there is tension between the two professions as both are seeking to clarify their unique professional identities (Harbison & Melanson, 1987; Kane, 1975). This tension centers around meeting patients psychosocial needs. Although social workers see this area as being unique to their profession (Ben-Sira & Szyf, 1992; Cowles & Lefcowitz, 1992; Egan & Kadushin, 1995; Kulys & Davis, 1987), nurses consider themselves dominant in meeting these needs. Three collaboration studies that included social workers are described.

Ben-Sira and Szyf (1992), both social workers, were concerned that because nurses have both medical and psychosocial knowledge they were apt to challenge status-equality in collaboration with social workers in meeting patients' psychosocial needs. They proposed that a 'dyadic sense of collaboration' was a precondition to social workers' using their unique knowledge in meeting these needs. They defined collaboration as "the

perception of a relationship characterized by mutually gratifying interdependence, a sense of colleagueship, and absence of opposing interests and conflicts" (p.366). A dyadic sense of collaboration meant "both partners in a dyad (social worker and nurse) correspond in their perception of their relationship as collaborative" (p.366). Dyadic sense of collaboration was contingent on agreement between values, norms, and functions. Their pilot study involved 34 social worker-nurse teams in general hospitals in Jerusalem and Tel Aviv. Each individual was interviewed using a structured questionnaire composed of closed, ordinal questions which measured a) sense of collaboration, b) values, c) norms, and d) division of functions. For each variable, the distance between the responses of each group was calculated, resulting in four agreement scores, with a score of 1 indicating 'high agreement' and a score of 4 indicating 'no agreement'. (Demographic characteristics of the sample, including educational preparation, were not reported.) This study showed that although both groups considered their relationships to be collaborative, status-unequal collaboration was in operation. While there was agreement on the value of meeting psychosocial needs, there was little agreement on norms and functions. Participants disagreed about which profession is expected, competent, and has the authority to meet psychosocial needs, and who actually does it. Nurses considered psychosocial needs to be in their domain, conceding administrative functions such as money, discharge planning, and interpersonal relations to the social workers; although reluctantly, social workers went along with this. The authors concluded that nurses and social workers have a similar view of their roles with respect to psychosocial needs, and unless social workers develop a body of procedural psychosocial knowledge, their role will continue to be undermined.

Bournazos (1993) carried out a descriptive correlational study that examined the relationship between interprofessional perceptions and collaboration among social workers, physicians, and nurses. She wanted to know how these professionals viewed themselves and each other, the extent to which they collaborated, and the relationship

between these two factors. A non-random sample of professionals from medical-surgical units in two metropolitan acute care hospitals was used. There were 29 physicians, 40 social workers, and 96 nurses in the study. Twelve percent of the nurses had advanced certification status, 49% had Baccalaureate degrees, 29% had Associate degrees, 20% had Diplomas, and 2% had Masters degrees.

Participants completed a modified version of Weiss and Davis's (1985) Collaborative Practice Scales, Ducanis and Golin's (1979) Interprofessional Perception Scale (IPS), and a Critical Event form describing a situation in which the outcome was influenced by collaboration between themselves and others. The IPS data resulted in four types of views: respondents views of their own profession, their views of the other professions, how others are perceived to view the respondents profession, and how others perceive their own profession. Factor analysis of these measures yielded three factors for each measurement: Self-Assurance and Complementarity (SAC), Role Clarity (RC), and Autonomous Action (AA). The four views and three factors yielded data for 12 variables. Three analyses of variance were carried out (one for each factor, by the three professional groups) and if significant differences arose, post-hoc Scheffé tests were used. Bournazos summarized the IPS findings by indicating that generally, 1) the social workers mean scores for many level/factor combinations were lower than those of the physicians or nurses, and 2) physicians' mean scores for many combinations were higher than those of the social workers or nurses. Additionally, although physicians had higher mean scores for RC and AA, others tended to give them lower scores for SAC. Bournazos also reported there was dissonance between the levels for some factors. For example, nurses perceived others to rate them lower on Autonomous Action than they rated themselves, but not as low as others actually rated them.

With respect to the extent to which collaboration occurred, factor analysis of the Mutual Safeguarding of Concerns instrument yielded two factors: Consensus and Mutual Respect. There were significant differences for both of these factors. Social workers

perceived themselves higher with respect to Consensus than others perceived them, while nurses and physicians were similar on this factor. For Mutual Respect, nurses and social workers gave physicians higher scores than physicians gave nurses and social workers. Bournazos notes there was less clarity about the role of the nurses than there was about that of physicians or social workers.

Canonical correlation was used to assess the relationship between interprofessional perception and collaboration. The two sets of variables were the CPS-M factors scores for Consensus and Mutual Respect, and the IPS factor scores. Although the correlations were low, two were statistically significant. Those who perceived they had self-assurance and complementarity and thought others shared this view, as well as believing that others perceived them as having low autonomy, tended to act with mutual respect for others. Bournazos described this as the " 'we're all in this together' phenomenon" (p.155). The second significant correlation was those who perceived themselves and others to have low autonomy, and themselves as low on self-assurance and complementarity, tended to reach consensus with other professionals.

Bournazos (1993) noted her study was limited by the volunteer sample, a low return rate (39%) of a long survey, and a small sample size for carrying out factor analysis. She did not examine the relationship of demographic characteristics to self-perception or collaboration, indicating this needs to be done in future studies.

Hansen, Bull, and Gross (1998) examined the extent to which characteristics (education, experience, and length of service) of nurses, physicians, and social workers and views on collaboration predicted perceptions of discharge planning communication for older adults. They expected positive views of collaboration would be predictive of favorable perceptions of discharge planning. Using a cross-sectional survey design, a modified version of a questionnaire designed to measure nurse-physician collaboration in intensive care was sent to 157 RN's, 20 LPN's, 51 physicians, and 7 social workers from six medical units. As the number of social workers was small, they conducted in-

depth semistructured interviews with this group. Three aspects of collaboration were assessed: communication, problem solving/conflict management, and coordination. Communication openness with social workers, problem solving between physicians and nurses, and collaboration with social workers were considered important by all three groups. In the nursing group the predictive model explained 61.7% of the variance in discharge planning. For the 97 RNs who completed the survey, educational preparation was the only characteristic associated with discharge planning, and nursing was the only group for which education (Baccalaureate degree as opposed to Associate degree) was included in the final predictive model.

Summary

From this review it is clear that educational preparation has had little attention in collaboration research. Educational level was not the primary variable of interest in any of the studies and although five of twelve studies included it among other variables being investigated, their findings were inconsistent. Alt-White et al (1983) and Baggs and Ryan (1990) found educational level did not have an impact on collaboration while Weiss and Davis (1995) and Hansen et al (1998) found that it did. In Jones' (1991) study, the educational level of physicians, not nurses impacted on collaboration. The predominance of studies focusing on nurse-physician collaboration, as well as small sample sizes may have contributed to this inconsistency. Although these studies shed some light on education and collaboration, whether or not educational level has an impact on interprofessional collaboration has yet to be determined.

CHAPTER THREE

METHOD

This chapter is a description of the procedures used in data gathering and analysis. The study design and sample are explained, followed by a description of the survey instrument. Data collection and analysis procedures conclude the chapter.

Study Design

The purpose of this study was to ascertain if level of nursing education preparation (initial preparation as opposed to graduate preparation) impacts on nurses' perceptions of their collaboration with other health professionals and whether these perceptions are related to professional role identity. To accomplish this, a descriptive comparative survey design was used. This design was considered appropriate as the basic assumptions underpinning comparative designs (Wood & Brink, 1998) were evident in the conditions for this study. First, as demonstrated in the literature review, the relationship of educational level to collaboration had been considered by other researchers such that a predictive hypothesis could be made (Alt-White et al, 1983; Egan & Kadushin, 1995; Hansen et al, 1998; Jones, 1991; Weiss, 1985; Weiss & Davis, 1985; Weiss & Remen, 1983). Additionally, stratified random sampling techniques would result in comparative representative groups of the two levels of educational preparation. Finally, instruments for measuring the four dimensions of collaboration and professional identity were available, and extraneous variables could be controlled through random sampling and data analysis techniques.

Study Sample

Stratified random sampling was used in this study. The two strata were nurses whose highest nursing education preparation was a Diploma or Baccalaureate degree, and nurses whose highest preparation was a nursing Masters or Doctoral degree. The sample

for each stratum was drawn from the membership of the Alberta Association of Registered Nurses (AARN), 15,957 who are Diploma prepared, 6,542 Baccalaureate prepared, 480 Masters prepared, and 28 who were Doctoral prepared.

In determining sample size consideration was given to power, the number of nurses in each stratum, and return rates for mailed surveys. As there were no studies where effect size had been calculated and it was not possible to do so from the data in the reports of other studies, a smaller effect size was assumed (.20). For non-parametric analysis with a significance level of .05, four degrees of freedom (the maximum degrees of freedom in the statistical tests done on the four dimensions of collaboration), a power of .80, and effect size of .20, the recommended sample size for each group is 298 (Cohen, 1977). According to Dillman (1978), the return rate on mailed surveys is normally between 50% and 94%, with an average rate of 75%. Crosby, Ventura and Feldman (1989) used Dillman's recommended procedures and had a 93% return rate on their mailed survey, while Miller (1987) had a 73% return rate at the end of a three round modified Delphi study. Based on this information as well as cost, the sample size of each stratum was set at 400.

Prior to drawing the samples, AARN members who were not working, employed in another field, working for associations, the government, or as nursing education administrators were removed. It was assumed these individuals did not interact with others on patient care matters. As a result, the 400 Diploma/Baccalaureate prepared nurses were drawn from a pool of 20,731 nurses and the 400 Masters/Doctoral prepared nurses from a pool of 437 nurses.

Instrumentation

Study participants completed a self-administered paper and pencil survey composed of demographic questions, four instruments measuring the dimensions of collaboration,

and a fifth instrument measuring professional identity (see Appendix A). These instruments, as well as survey development and pretesting are described.

The Instruments

Each of the five instruments (mutual safeguarding of concerns, patient care goals, practice spheres, power/control, and professional identity) is described, including its origins, validity and reliability, and where applicable, modifications made for this study.

Mutual Safeguarding of Concerns Instrument

Jones' (1991) version of Weiss and Davis's (1985) instrument for assessing mutual safeguarding of concerns was adapted for this study. As described in the literature review, this concept entails a high degree of concern for meeting one's own needs as well as the needs of others. Drawing on the work of organizational theorists, Weiss and Davis constructed two Likert scales to measure assertiveness and cooperation between nurses and physicians. The nurse scale was composed of 9 items that measured assertiveness, while the physician scale had 10 items that measured cooperativeness. Factor analysis was used to establish construct validity, and concurrent and predictive validity were established using Spearman's coefficients. Reliability was confirmed by Cronbach's alpha coefficients and test-retest coefficients. Jones modified Weiss and Davis's scale by incorporating the items in the physicians scale into the nurses' scale and vice versa. Factor analysis and Cronbach's alphas supported internal consistency of this adaptation. As this study was not restricted to nurses' collaboration with physicians, the word "physicians" was replaced with "other health professionals". This adaptation was approved by Weiss and Davis, as well as Jones. The items measuring mutual safeguarding of concerns are in Section One of the survey (see Appendix A).

Patient Care Goals Instrument

The patient care goals dimension was measured with an adapted version of Jones' (1991) goals instrument. This instrument is based on the premise that effective collaboration occurs when professionals are clear about which patient care goals are in their domain, which goals they share with others, and which are in the domain of another profession. Jones is one of the few researchers to have studied this aspect of collaboration. In her study of dependent nurse-physician pairs she developed an instrument to measure agreement on whether specific patient care goals were in the domain of nursing, medicine, or were shared. These goals were based on Gordon's (1994) Nursing Diagnoses as well as Jones' experiences in reviewing charts for physicians. Content validity was established by a panel of experts and reliability by comparing the responses of nurses from her two-phase study using the chi square test for homogeneity.

As this was not a study of nurse-physician collaboration or of a particular setting, 3 of the 24 items were removed: curing disease, diagnosing disease, and discharging the patient. The remaining 21 items were compared with all nursing diagnoses in Gordon's 11 Functional Health Patterns (Gordon, 1994) to see if they represented the full range of content Lynn (1986) indicates is required for content validity in cognitive measurements. As a result, another 7 items were developed. The 'nursing' and 'another profession' categories was labeled as 'primarily nursing' and 'primarily another profession' because of the holistic interests of all health professionals. For example, physicians are not disinterested in the diet of a diabetic person even though this is the mainly the concern of the nutritionist.

Judgment-quantification (Lynn) of these 28 items was done by a panel of three nurses with expertise in Gordon's Functional Health Patterns. Panel members rated each item for its congruence with the patterns. Nine goals were rated too low to be considered content valid, one was removed and changes were made to the other eight. Minor

wording changes were made to all but one of remaining goals, and one new goal was added. In the second review, five of the original goals were still rated too low, as was the new goal. These goals were further refined and subsequently judged as content valid. The use and adaptation of this tool was approved by Jones. The questions measuring the patient care goals dimension of collaboration are in Section Two of the survey (see Appendix A).

Practice Spheres Instrument

Ducanis and Golin's (1979) Interprofessional Perception Scale (IPS) was used to measure participants' ability to recognize, accept, and respect both separate and combined practice spheres. The 15 true or false items in this instrument address such areas as competence, ethics, trust, status, and autonomy. The instrument measures three levels of perception of one's role: opinions about one's own or another profession's role (Level 1), how members of another profession perceive that role (Level 11), and how that other profession would say the individual perceives his/her role (Level 111). According to Benson and Ducanis (1995), Level 1 and Level 11 questions can be used to assess one's perception of one's own role in relation to that of others.

Ducanis and Golin's (1979) original tool consisted of 25 items. After a pilot test with 38 masters nursing students some items were eliminated and others reworded, resulting in a 15 item instrument. Ducanis and Golin claimed content validity based on the direct nature of the questions. In Bournazos' (1993) study, two experts from each of three groups (nurses, physicians, and social workers) confirmed this claim. Ducanis and Golin established reliability in a test-retest procedure with 24 students in a graduate rehabilitation course. Percentages of exact agreement were between 74% and 86% for Level 1 (mean of 80%), 74% and 81% (mean of 79%) for Level 11, and 72% and 80% (mean of 74%) for Level 111. Bournazos also did a factor analysis of the IPS isolating three factors: Self Assurance and Complementarity, Role Clarity, and Autonomous

Action. The first factor was described as competent and ethical professionals who understand the other professions and have good working relationships with them. Role Clarity pertained to the need to establish boundaries and the third factor, Autonomous Action, referred to professionals who act autonomously and believe their profession to have greater status than other professions. Permission to use this instrument was granted by Golin. The instrument is in Section Three of the survey (see Appendix A).

Power/control Instrument

The extent to which participants perceived a sense of power and equality in their relationships with other health professionals was assessed using Guilbert's Health Care Work Powerlessness Scale (HCWPS) (Revised) (1972). Guilbert defined power as "the extent to which workers think they have or expect to have control or influence on events or decisions in their working situations" (p.37). The HCWPScale, designed to measure feelings of powerlessness among health care professionals, was based on Seeman's (Seeman & Evans,1962) concept of alienation, of which powerlessness is one component. The scale has 14 paired, forced-choice, dichotomous statements. Content validity was established by a panel of expert judges (Guilbert), and concurrent validity by comparing the tool with Seeman's general powerlessness tool (r=.45, sig.000) (Tibbles [1983] in communication with Guilbert). Reliability, using split-half coefficients, has been reported in four instances: 1) .72 and .81 by Guilbert, 2) .77 by Tibbles, 3) .82 by Sands & Ismeurt (1986), and 4) .98 by Santora & Steiner (1982). Santora and Steiner also reported a Cronbach's alpha of .84. For this study, minor wording changes were made to suit the context. Approval to make these changes and use the instrument was granted by Guilbert. The questions measuring nurses' perception of their power are in Section Four of the survey (see Appendix A).

Professional Identity Instrument

Professional identity was measured using Lawler's (1988) modification of Stone's Health Care Professional Attitude Inventory. This instrument consists of 38 items measured on a five point Likert scale and was based on Dumont's conceptualization of new professions as having six components: being consumer orientated and having a growing concern with credentialing, a sense of superordinate purpose, an attitude of criticism, impatience with the rate of change, and being motivated by compassion for peoples needs (Lawler). Lawler modified and tested this instrument, along with Corwin's (1961) Nursing Role Conception Scale and concluded that of the two, Stone's was more reliable and valid for measuring professional orientation. Content validity was established by a panel of eight nursing experts. Lawler reported construct validity based on the contrasted group approach and the convergent principle. Reliability, based on Cronbach's alpha was reported as .73. Stone's work also included a description of six subscales, one for each of the six components. Permission to use this instrument was granted by the publisher and is found in Section Five of the survey (see Appendix A).

Survey Development and Testing

The survey consisted of 123 items. In addition to those in the five instruments described above, there were nine others. The first survey item asked participants to indicate the full range of professionals with whom they worked, and the other eight items pertained to educational background, as well as type and length of nursing experience (see Section Six of the survey). The survey was pre-tested by 12 nurses from a variety of settings (community, long-term care, acute care) and practice areas (intensive care, neonatal intensive care, maternal-infant, palliative care, mental health, and geriatrics). Three testing sessions were held, with seven nurses attending the first session, one attending the second, and four coming to the last session. Pre-test participants were given minimal instructions and input prior to completing the survey. Time to complete the

survey was recorded and individual behavior noted. A discussion of encountered difficulties concluded each session. Suggestions for changes were noted and incorporated as appropriate. As the format of the Practice Spheres instrument was found to be particularly problematic, changes were made to this section prior to the third pre-test session. The survey was also reviewed by an editor and an instructional designer, resulting in a number of grammatical and lay-out improvements.

Data Collection Procedures

To maximize survey returns Dillman's (1978) techniques for attaining high response rates to mailed surveys were used. These techniques, based on social exchange theory, emphasize the rewards of survey completion over the costs. All written materials acknowledged participants' expertise and emphasized the importance of their input into something of value. Participants were thanked for that input and were given the opportunity to receive a copy of the study results. Participants' costs were minimized with self addressed, pre-stamped return envelopes, and a toll-free 1-800 number. Finally, the survey was designed to be clear and concise with a reduced size and a simple layout.

The letter accompanying the survey was the key recruitment strategy. Each letter was individually printed and hand-signed. The letter was worded to convince potential participants that there is a problem with regard to collaboration between nurses and other professionals, and that their input was important if this problem is to be resolved (see Appendix B).

Ethical approval for this study was granted by the Health Research Board of the University of Alberta, and the AARN approved access to the membership. Study participants were known only to the AARN and all survey materials were sent from their office. Surveys were numbered to facilitate follow-up of non-respondents. Participants were asked to avoid putting any identifying information on their survey or on the return-

envelope. Completed surveys were opened by a third party who removed the results request forms. Phone messages were also accessed by a third party.

Approximately one week after the initial mail-out, participants were sent a postcard thanking them for their participation and reminding them to return their surveys (see Appendix C). Three weeks later, a replacement survey, accompanied by another letter, (see Appendix D) was sent to all non-respondents. Several participants called the 1-800 number requesting replacement of misplaced surveys and a few called questioning their inclusion in the study. The initial mail-out and follow-up post card resulted in 297 returns (37%) and the replacement surveys yielded another 12% (98).

Data Analysis Procedures

Of the 800 surveys mailed, 395 (49%) were returned. Sixteen of these were unusable: 12 were not completed, 3 had only sporadic answers, and 1 had been completed by a nursing education administrator. In the remaining 379 surveys, 174 were from nurses prepared at the nursing Diploma/Baccalaureate level, and 205 were from nurses prepared at the nursing Masters/Doctoral level. Prior to data analysis, reliability of the five instruments was assessed using Cronbach's alpha coefficients, with the following results: mutual concerns .93; patient care goals .87; practice spheres .79; power/control .87; professional identity .64. Cronbach's alpha coefficients for the subscales of the professional identity instrument were: consumer control .47; credentialing .35; superordinate purpose .32; critical attitude/thinking .02; impatience with the need for change .29; compassion for peoples needs .41.

Descriptive and inferential statistical tests (parametric and non-parametric) in SPSS were used to analyze the data. The significance level for all tests was established at p=.05. The analysis of the data for each instrument, as well as management of missing data, follow.

Mutual Safeguarding of Concerns Analysis

The Mutual Safeguarding of Concerns instrument has 19 Likert items that are scored from 1 (never) to 6 (always). The first 9 items represent assertiveness and the last 10 represent cooperativeness. The assertiveness score (from 9 to 54) and the cooperativeness score (from 10 to 60) are plotted on a two-dimensional grid (Jones, 1991) to get a mutual concerns score of 0 (avoidance), 1 or 2 (competitiveness, compromise or accommodate), 3 or 4 (collaborative) (see Appendix E).

There were 51 surveys with unanswered items in this instrument. Of these, 20 had one unanswered item, and 3 had two unanswered items, one assertiveness item and one cooperativeness item. For these 23 surveys, individual mean substitution for the missing assertiveness and/or cooperativeness value was used. Downey and King (1998) recommend this type of substitution for scales where items are related to each other, and when the missing values represent 20% or less of the total items, which was the case here. This substitution was also considered appropriate because each of the five scores on the mutual concerns grid encompasses a range of assertiveness and cooperativeness scores (see Appendix E). In the remaining 28 surveys there were 13 in which all items were unanswered, and 18 in which two or more items were unanswered in the assertiveness and/or the cooperativeness items. These 28 surveys were coded as missing values in the analysis: 4.6% of the Diploma/Baccalaureate group and 9.8% of the Masters/Doctoral group.

The Mann-Whitney test was used to compare the average scores of the two groups and the z test was used to compare the proportion of each group having each of the five scores. Spearman's correlation coefficient was used to assess the relationship between mutual safeguarding of concerns scores and professional identity.

Patient Care Goals Analysis

There are 28 items addressing patient care goals. For each item, participants indicate whether they think the goal is primarily in the domain of nursing, shared with other professionals, or primarily in the domain another profession. The more goals judged to be nursing goals, the greater the clarity about patient care goals.

There were 64 surveys with unanswered items. In 39 of these, 1 of the 28 items (3.4%) was unanswered. As this is well below the 10% missing values considered acceptable (Odynak, 1987), these surveys were included in the analysis of the number of participants choosing each type of response. In the remaining 25 surveys there were 3 in which all items were unanswered and 22 in which 2 or more items were unanswered. These 25 were excluded from this part of the analysis: 8.9% of the Diploma/ Baccalaureate group, and 5.4% of the Masters/Doctoral group. At the individual goal level the average number of missing values for the Diploma/Baccalaureate group was 5.2 (3.0%) and for Masters/Doctoral group it was 4.1 (2.0%).

The ANOVA test was used to compare the mean number of goals considered to be primarily nursing goals, shared goals, and primarily another professionals goals. For the individual goals the z test was used to compare the proportion of each group indicating each type of goal. Pearson's correlation coefficient was used to assess the relationship between the number of each type of goal and professional identity.

Practice Spheres Analysis

The Practice Spheres instrument has 15 true/false items to which participants respond twice: first, how they themselves view nurses and second, how they think others view nurses, resulting in two sets of answers. Consistency between these sets of answers is considered indicative of recognizing, accepting, and respecting both separate and combined practice spheres. For each item, a score of 1 was assigned to the answer (true or false) that would contribute positively to collaboration, and a score of 0 to the answer

(true or false) that would not contribute positively. This resulted in two sets of scores, each between 0 and 15: one for how they viewed nurses and the other for how they thought others viewed nurses. The higher the score, the more positive their views of collaboration.

Due to missing values, in the Diploma/Baccalaureate group 31 (17.9%) scores were missing from 'how nurses view themselves' and 50 (28.9%) were missing from 'how nurses think others view them'. Corresponding figures for the Masters/Doctoral group were 35 (17%), and 50 (24.3%).

To compare the consistency of each groups' answers to the two sets of items (own view and others' view), two tests were used: the *t* test to compare the average number of consistently scored items and the *z* test to compare consistency for the individual items. The *t* test was used to compare the groups' mean scores for each set of items and the *z* test was used to compare responses to individual items. To assess the relationship between the number of consistently scored items and professional identity, the Spearman's correlation coefficient was used, while Pearson's correlation coefficient was used to assess this relationship with each of the two scores.

Power/control Analysis

Guilbert's Powerlessness Scale (1972) is composed of 14 items, each item a paired forced-choice, dichotomous statement: one statement representing a sense of power and control (scored as 0), and the other statement representing a sense of powerlessness and no control (scored as 1). Individual scores are totaled resulting in a score ranging from 0 to 14, with 0 representing no powerlessness and 14 representing powerlessness. Guilbert, in communication with Aulbach (1983) and Tibbles (1983), indicated her instrument is sensitive enough to allow for leveling. This being the case, scores were also categorized into three levels (Guilbert): low powerlessness (0-2), moderate powerlessness (3-5) and high powerlessness (6-14).

There were 20 surveys with one or more missing values. Due to the nature of this instrument (paired forced-choice items) no substitutions could be made, therefore powerlessness scores were missing for 7 (4.0%) in the Diploma/Baccalaureate group and 13 (6.3%) in the Masters/Doctoral group. Because each powerlessness level encompasses a range of scores, levels could be derived for 7 of these 20 surveys. Powerlessness levels were missing for the remaining 13 surveys (3.4%).

The *t* test was used to compare the mean powerlessness scores and the *z* test to compare the proportion of each group at each of the three levels (low, moderate, and high powerlessness). Pearson's correlation coefficient was used to assess the relationship between powerlessness scores and professional identity.

Professional Identity Analysis

Stone's Health Care Professional Attitude Inventory consists of 38 Likert scaled items scored from 1 (strongly agree) to 5 (strongly disagree). Items are totaled, with the minimum score being 38 and the maximum score 190. The higher the score, the more professional is the nurse's attitude. Four of the six subscales have six items and therefore have scores ranging from 6 to 30, and the other two have seven items, with scores ranging from 7 to 35.

There were 46 (12.1%) surveys with missing values. According to Downey and King (1998) the PMS (person mean substitution) approach can be used if both the number of respondents with missing values and the number of missing values for each person is no more than 20%. Based on this recommendation, the personal mean value was substituted in 38 surveys that had up to seven missing values. For the remaining 8 surveys (2.1%) professional identity scores were missing.

The *t* test was used to compare mean professional identity scores. Analysis for the subscales was not carried out because of the low reliability coefficients for all six scales.

CHAPTER FOUR

RESULTS

The results of this study are presented here, beginning with participants' educational and professional backgrounds. Following this, the comparative findings of the two groups on the instruments measuring the four dimensions of collaboration are reported. The chapter concludes with the comparative findings for the professional identity instrument and the relationship of professional identity to collaboration.

Participants' Educational and Professional Backgrounds

In this section, the demographic characteristics of the two participant groups (Diploma/Baccalaureate prepared and Masters/Doctoral prepared) are presented. These characteristics include educational background (nursing and non-nursing), professional background, and participants' tenure in the profession.

Educational Backgrounds

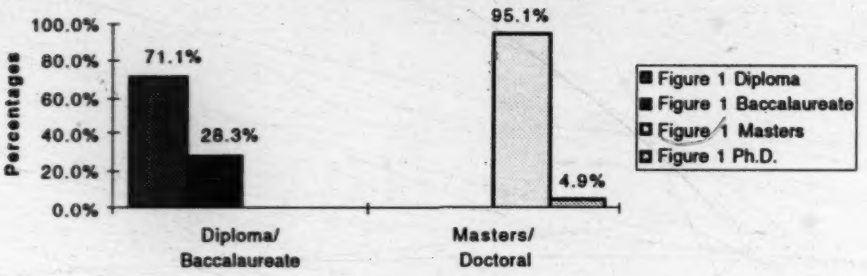
The educational preparation of participants in both groups was predominantly in nursing with only 26 (15.0%) of the Diploma/Baccalaureate group and 40 (19.4%) of the Masters/Doctoral group holding credentials in another field. The Diploma/Baccalaureate group had one or two nursing credentials (Diploma and/or Baccalaureate degree), with the majority (85.0%) holding one credential, most frequently a Diploma (see Table 1). The Masters/Doctoral group had between one and four nursing credentials, with half (50.5%) holding two credentials and slightly less (46.6%) holding three credentials. The majority of those with two nursing credentials held Baccalaureate and Masters degrees, while the majority with three nursing credentials held Diplomas, Baccalaureate degrees, and Masters degrees. The data pertaining to level of nursing credential indicated the Diploma/Baccalaureate group was predominately Diploma prepared (71.7%), and the Masters/Doctoral group was predominately Masters prepared (95.1%) (see Figure 1).

Table 1

Number of Nursing Credentials Held by Each Group

Credentials by Group		Number of Participants
Diploma/baccalaureate:		
One credential		
Diploma		125
Baccalaureate		22
	Total	147 (85.0%)
Two credentials		
Diploma & baccalaureate		26 (15.0%)
Masters/doctoral:		
One credential		
Masters		3 (1.46%)
Two credentials		
Diploma & masters		13
Baccalaureate & masters		87
Diploma & doctoral		3
Baccalaureate & doctoral		1
	Total	104 (50.5%)
Three credentials		
Diploma, baccalaureate & masters		93
Diploma, masters & doctoral		1
Baccalaureate, masters & doctoral		2
Four credentials	Total	96 (46.6%)
Diploma, baccalaureate, masters & doctoral		3 (1.46%)

Figure 1. Highest level of educational preparation.



Professional Backgrounds

Participants were asked the length of time they had been engaged in nursing, their area of nursing, place of employment, position, and the range of health professionals with whom they worked. These findings are described here.

Years in Nursing

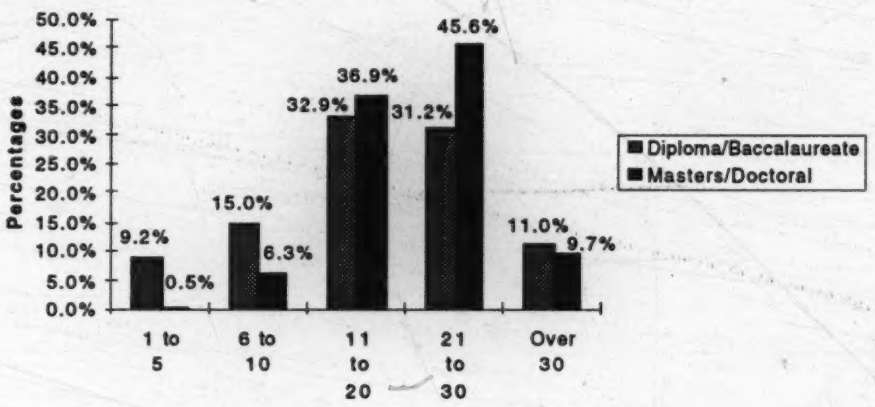
The nurses in this study had extensive nursing experience (see Figure 2). Participants in both groups were most likely to have been in nursing between 11 and 30 years. Approximately one-third of both groups (Diploma/Baccalaureate 32.9%; Masters/ Doctoral 36.9%) had between 11 and 20 years of nursing experience. Another third (31.2%) of the Diploma/Baccalaureate group and close to half (45.6%) of the Masters/ Doctoral group had between 21 and 30 years of nursing experience.

Area of Nursing

Participants in both groups worked in a diverse range of nursing practice areas (see Table 2). The Diploma/Baccalaureate group worked in 14 of 17 areas, with the most frequently reported area (24.4%) being medical/surgical nursing. The Masters/Doctoral

prepared group worked in 17 areas, with the most frequently reported area (18.0%) being pediatrics/maternity/newborn nursing.

Figure 2. Years of nursing experience.



Place of Employment

Participants in both groups worked in a wide range of settings, 12 for the Diploma/ Baccalaureate group and 14 for the Masters/Doctoral group (see Table 3). Although the most frequently reported work setting for both groups was some type of care facility, there were notable differences in these percentages: 81.9% of the Diploma/Baccalaureate group compared to 47.5% of the Masters/Doctoral group. Another notable difference was the percentage of each group working in educational institutions: 1.7% of the Diploma/Baccalaureate group compared to 24.3% of the Masters/Doctoral group. (Educational institution was reported under the 'other' category of the survey item on place of employment.)

Participants in both groups were most likely to have been in their current place of employment for 1-7 years (Diploma/Baccalaureate 37.0%; Masters/Doctoral 54.9%) or

for more than 12 years (Diploma/ Baccalaureate 35.8%; Masters/ Doctoral 20.9%) (see Figure 3).

Table 2

Rank Order of Participants' Reported Areas of Nursing (Most Frequent to Least Frequent) for Each Group

Diploma/baccalaureate group (N=160)		Masters/doctoral group (N=172)	
Areas	n(%)	Areas	n(%)
Medical/surgical	39(24.4%)	Pediatrics/maternity/newborn	31(18.0)
Geriatrics/gerontology	22(13.7%)	Psych/mental health	29(16.9%)
Pediatrics/maternity/newborn	20(12.5%)	Medical/surgical	25(14.5%)
Emergency/critical care	19(11.9%)	Community/public/school health	19(11.9%)
Oncology/palliative care	13(8.1%)	Geriatrics/gerontology	16(9.3%)
Home health/visiting care	11(6.9%)	Emergency/critical care	14(8.1%)
Psych/mental health	10(6.3%)	Rehabilitation/ambulatory care	10(5.8%
Community/public/school health	8(5.0%)	Home health/visiting care	9(5.2%)
Operating/recovery room	8(5.0%)	Oncology/palliative care	5(2.9%)
Rehabilitation/ambulatory care	6(3.7%)	Health promotion/primary care	4(2.3%)
Cardiology	1(0.6%)	Operating/recovery room	2(1.2%)
Renal	1(0.6%)	Women's health	2(1.2%)
Infection control	1(0.6%)	Family nursing	2(1.2%)
Neuroscience	1(0.6%)	Cardiology	1(0.6%)
		Renal	1(0.6%)
		Infection control	1(0.6%)
		Neuroscience	1(0.6%)

Note. Number of participants differs from that of the overall study due to missing data.

Table 3

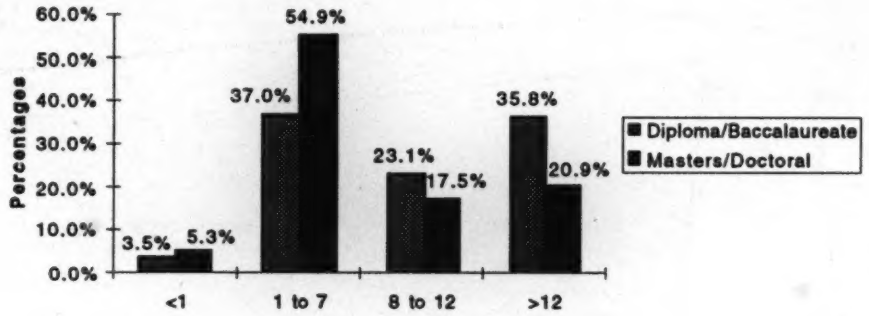
Distribution of Each Group According to Place of Work

Workplace	Frequencies & percentages by group	
	Diploma/baccalaureate (N=171)	Masters/doctoral (N=202)
Care facility		
Hospital	117(68.4%)	73(36.1%)
Nursing Home/long term care	18(10.5%)	10(4.9%)
Rehabilitation hospital	4(2.3%)	8(4.0%)
Mental health centre	1(0.6%)	5(2.5%)
Total	140(81.9%)	96(47.5%)
Educational institutions	3(1.7%)	49(24.3%)
Community		
Coomunity health agency	11(6.4%)	22(10.9%)
Homecare/visiting care agency	12(7.0%)	10(4.9%)
Community nursing clinic	1(0.6%)	3(1.5%)
Office/family practice unit	1(0.6%)	0(0.0%)
Business/industry/occupational health	0(0.0%)	2(1.0%)
Total	25(14.6%)	37(18.3%)
Self-employed/consultant	2(1.2%)	10(4.9%)
Government	0(0.0%)	4(2.0%)
Regional health authority	1(0.65)	3(1.5%)
Others*	0(0.0%)	3(1.5%)

Note. Number of participants in each group differs from that of the overall study due to missing data.

*= law firm, health education publication, no answer

Figure 3. Years at place of employment.



Positions

Although participants from both groups were represented in the seven reported positions (see Table 4), there were notable differences between the groups. The majority of the Diploma/Baccalaureate group (78.1%) were staff/community health nurses compared to 12.6% of the Masters/Doctoral group. The positions most frequently held by the Masters/Doctoral group were manager/supervisor/coordinator (27.8%), educator (24.2%), and clinical nurse specialist (23.7%). Corresponding percentages for the Diploma/Baccalaureate group were manager/supervisor/coordinator 12.4%, educator 2.4%, and clinical nurse specialist 3.6%. Participants in the Diploma/Baccalaureate group were more likely to have held their positions for a longer period of time (see Figure 4). Close to half (46.2%) of the Diploma/Baccalaureate group had been in their current positions for over eight years compared to less than one quarter (22.8%) of the Masters/Doctoral group. Additionally, 24.9% of the Diploma/Baccalaureate group had served in their positions for one to three years compared to 39.8% of the Masters/ Doctoral group. (Educator was reported under the 'other' category of the survey item on position.)

Table 4

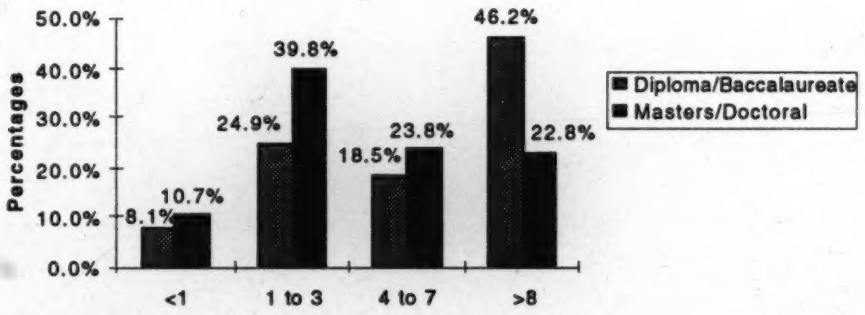
Positions Held by Participants in Each Group

Position	Frequencies & percentages by group	
	Diploma/baccalaureate (N=169)	Masters/doctoral (N=198)
Staff/community health nurse	132(78.1%)	25(12.6%)
Manager/supervisor/coordinator	21(12.4%)	55(27.8%)
Clinical nurse specialist	6(3.6%)	47(23.7%)
Educator	4(2.4%)	48(24.2%)
Consultant	2(1.2%)	12(6.1%)
Researcher	2(1.2%)	8(4.0%)
Other*	2(1.2%)	3(1.5%)

Note. Number of participants in each group differs from that of the overall study due to missing data.

* = systems analyst, family therapist, pediatric transport nurse, owner/operator

Figure 4. Years in current position.



Professions With Whom Participants Worked

While participants in both groups worked with a wide range of professions (14), those in the Diploma/Baccalaureate group reported more cross-disciplinary work. In this group 60.0% or more reported working with each of eight professions: physicians,

pharmacists, nutritionists, physiotherapists, social workers, respiratory therapists, licensed practical nurses, and occupational therapists (see Table 5). In the Masters/Doctoral there were four such professions: physicians, social workers, pharmacists, and nutritionists. Although more Diploma/Baccalaureate prepared nurses worked with a wider range of health professionals, the two groups were similar with respect to the frequency pattern of the professions with whom they worked (see Table 5).

Table 5

Rank Order of Professions Worked With (Most Frequent to Least Frequent) for Each Group

Diploma/baccalaureate group (N=160)		Master/doctoral group (N=188)	
Professions	n(%)	Professions	n(%)
Physicians	157(98.1%)	Physicians	178(94.7%)
Pharmacists	147(91.9%)	Social workers	158(84.0%)
Nutritionists	121(76.6%)	Pharmacists	127(67.5%)
Physiotherapists	113(70.6%)	Nutritionists	120(63.8%)
Social workers	111(69.4%)	Physiotherapists	99(52.7%)
Respiratory therapists	98(61.2%)	Occupational therapists	94(50.0%)
Licensed practical nurses	98(61.2%)	Clergy	88(46.8%)
Occupational therapists	96(60.0%)	Respiratory therapists	86(45.7%)
Clergy	72(45.0%)	Licensed practical nurses	84(44.7%)
Psychologists	58(32.6%)	Psychologists	81(43.1%)
Recreation therapists	54(33.7%)	Recreation therapists	49(26.1%)
Speech pathologists	41(25.6%)	Speech pathologists	39(20.7%)
Paraprofessionals	18(11.2%)	Paraprofessionals	17(9.0%)
Technicians	16(10.6%)	Technicians	11(5.8%)

Note. Number of participants in each group differs from that of the overall study due to missing data.

Educational Preparation and the Four Dimensions of Collaboration

The question of primary interest in this study was whether there were significant differences between nurses prepared at the Diploma/Baccalaureate level and those prepared at the Masters/Doctoral level with respect to four dimensions of collaboration: mutual safeguarding of concerns, patient care goals, practice spheres, and power control. To ascertain if this was so, the two groups described above completed instruments measuring these dimensions and the resulting data were compared. Before describing these findings, a comparative summary of the educational and professional backgrounds of the groups is provided, beginning with the level of educational preparation within each group.

Close to 75% percent of the Diploma/Baccalaureate group was Diploma prepared, and over 90% of the Masters/Doctoral group was Masters prepared. To address these disproportions, comparisons within each group were made on the four dimensions of collaboration (Diploma prepared compared to Baccalaureate prepared, and Masters prepared compared to Doctoral prepared), with significant differences indicating a lack of homogeneity within a group. The few significant differences found were limited to individual items in the Patient Care Goals and Practice Spheres instruments. Instances where these differences impacted the group comparisons are described below. The Masters/Doctoral group had more years of experience, worked in more diverse settings, and held a broader range of positions than the Diploma/Baccalaureate group. The Diploma/Baccalaureate group had been in their place of employment for longer, which was most likely to be a care facility where they held staff nurse positions. Finally, although the Diploma/Baccalaureate group worked with a somewhat wider range of health professionals, the groups were quite similar with respect to the disciplines with whom they worked.

Educational Preparation and Mutual Safeguarding of Concerns

The Mutual Safeguarding of Concerns instrument measured the extent to which the participants had a high degree of concern about meeting their own needs, as well as the needs of other professionals. Scores on this instrument range from 0 to 4, with 3 and 4 considered to be 'collaboration' (Jones, 1991). The scores of both groups (Diploma/ Baccalaureate and Masters/Doctoral) were concentrated at the collaboration end of this five point grid (3 and 4). The comparison of the average score of each group, as well as the proportion of each group having each score are described.

The data indicated that nurses prepared at the Masters/Doctoral level performed significantly better on this dimension of collaboration than did nurses prepared at the Diploma/Baccalaureate level. In spite of the concentration of scores at the collaboration end of the scale, the Masters/Doctoral group scored significantly higher than the Diploma/Baccalaureate group (see Table 6). Additionally, significantly more Diploma/ Baccalaureate prepared nurses scored '3' while significantly more Masters/Doctoral prepared nurses scored '4' (see Table 7).

Table 6

Comparison of Mutual Safeguarding of Concerns Scores Using Mann Whitney

Group	Mean rank
Diploma/baccalaureate	154.63
Masters/doctoral	193.90***

***p<.001

Table 7

Comparison of Proportion of Each Group Having Each of the 5 Mutual Concern Scores Using the z Test

Score	Diploma/ baccalaureate	Masters/ doctoral	z value	p
4	75(45.7%)	127(68.3%)***	-4.255	.000
3	42(25.6%)**	26(14.0%)	-2.741	.006
2	35(21.3%)	27(14.5%)	-1.667	.096
1	7(4.3%)	5(2.7%)	-.810	.418
0	5(3.0%)	1(0.5%)	-1.803	.071

Note. Number of participants in each group differs from that of the overall study due to missing data

**p<.01 ***p<.001

Educational Preparation and Patient Care Goals

The Patient Care Goals instrument assessed participants' views on whether goals were primarily in the domain of nursing, shared with others, or primarily in the domain of another profession. The resulting data are presented at two levels: group comparisons of the aggregate distribution of responses across the three types of goals ('nursing', 'shared', 'another's'), followed by group comparisons at the individual goal level.

Group Comparison of Aggregate Distribution of Responses by Goal Type (Primarily Nursing, Shared, Primarily Another's)

The nurses in both groups were most likely to consider this set of goals to be shared with other health professions, rather than 'nursing' or 'another's' goals (see Table 8). There were no significant differences between the groups in the number of goals thought to be 'nursing' or 'shared'. However, there was a significant difference in the number of goals considered to be 'another's', with the Diploma/Baccalaureate group indicating significantly more goals than the Masters/Doctoral group (see Table 8).

Table 8

Group Comparison of Mean Number of Goals Considered to be Nursing, Shared, and Another's Using ANOVA

	Means and standard deviations by group			
	Diploma/baccalaureate		Masters/doctoral	
Goal type	M	SD	M	SD
Nursing	5.50	4.55	6.54	5.69
Shared	20.38	5.38	20.41	5.93
Another's	1.97***	2.83	0.97	1.72

Note. Nursing goals: [MS(between)=94.123,MS(within)=27.117,F=3.471,p=.063]n=353; Shared goals: [MS(between)=8.124,MS(within)=32.366,F=.003,p=.960]n=353; Another's goals: [MS(between)= 87.337, MS(within)=5.222,F=16.726,p=.000],n=353

***p<.001

Group Comparison of Responses to Individual Items by Goal Type (Primarily Nursing, Shared, Primarily Another's)

Of the 28 patient care goals there were 14 with no significant differences between the groups and 14 with significant differences. The 14 goals with no significant differences are presented in Table 9. Most participants considered the first 2 of these goals (skin integrity and elimination) to be 'nursing' goals. Between 60% and 85% of the Diploma/ Baccalaureate group, and 66% and 87% of the Masters/Doctoral group considered the remaining 12 goals to be 'shared'.

The 14 goals with significant differences are presented in Table 10. The Diploma/ Baccalaureate group saw a stronger role for nursing in just 1 of these goals; significantly more considered 'infection' to be a 'nursing' goal while significantly more of the Masters/Doctoral group saw this as a 'shared' goal. For the remaining 13 goals, the Masters/Doctoral group saw a stronger role for nursing than did Diploma/Baccalaureate group. Significantly more of the Masters/Doctoral group thought 7 of these goals were 'nursing' goals: health management, selfcare, sleep, home maintenance, sensory

deficit/overload, role performance, and family relationships. (The within group comparisons revealed that for the selfcare goal, significantly more of the Doctoral prepared than Masters prepared participants considered this to be a 'nursing" goal.) The Diploma/Baccalaureate group considered the first 3 of these 7 goals to be 'shared' and the remaining 4 to be 'another's'. For 2 of the 13 goals, significantly more of the Masters/ Doctoral group considered them to be 'shared' while significantly more of the Diploma/ Baccalaureate group considered them to be 'another's': sexual functioning and spiritual well-being. For the remaining 4 goals significantly more Diploma/Baccalaureate participants thought they were 'another's': cognitive abilities, health decision making, social interaction, and coping mechanisms.

In summary, the data with respect to patient care goals indicates that participants in both groups generally considered this set of 28 patient care goals to be shared with other professions, rather than primarily in the domain of nursing or another profession. Although there were no significant differences in the number of goals considered to be primarily nursing, or shared, the Diploma/Baccalaureate group did consider significantly more goals to be in the domain of another profession. At the individual goal level, there were 7 goals which significantly more of the Masters/Doctoral group considered to be in the domain of nursing, while for the Diploma/Baccalaureate group there was only 1 such goal. Finally, there were 6 goals which significantly more of the Diploma/Baccalaureate group thought were either shared or in the domain of another profession.

Table 9

The 14 Patient Care Goals with No Significant Differences in the Proportions of the Groups Choosing Each Type of Goal (Nursing, Shared, and Another's) Using the z Test

Goal	Nursing goals				Shared goals				Another's goals			
	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p
Skin integrity	116(69.9%)	133(65.8%)	-.823	.411	50(30.1%)	69(34.2%)	-.823	.411	0(0.0%)	0(0.0%)	.000	1.000
Elimination	105(62.1%)	123(61.2%)	-.184	.854	63(37.3%)	78(38.8%)	-.301	.763	1(0.6%)	0(0.0%)	-1.091	.275
Nutrition	6(3.5%)	8(4.0%)	-.217	.828	144(84.7%)	174(86.1%)	-.390	.696	20((11.8%)	20(9.9%)	-.577	.564
Grieving	27(16.3%)	40(19.8%)	-.874	.382	138(83.1%)	162(80.2%)	-.721	.471	1(0.6%)	0(0.0%)	-1.103	.270
Mobility	26(15.6%)	30(14.9%)	-.191	.849	138(82.6%)	169(83.7%)	-.263	.793	3(1.8%)	3(1.5%)	-.235	.814
Cardiac/respiratory	14(8.3%)	19(9.4%)	-.378	.706	144(82.2%)	176(87.1%)	-.535	.593	11(6.5%)	7(3.5%)	-1.357	.175
Recreation/leisure	4(2.4%)	9(4.5%)	-1.078	.281	138(82.1%)	166(82.2%)	-.009	.993	26(15.5%)	27(13.4%)	-.576	.565
Pain	32(18.9%)	37(18.1%)	-.197	.844	136(80.5%)	165(80.9%)	-.099	.921	1(0.6%)	2(1.0%)	-.418	.676
Emotional disturbance	27(16.0%)	34(16.7%)	-.200	.841	134(79.3%)	165(81.3%)	-.481	.631	8(4.7%)	4(2.0%)	-1.500	.134
Verbal communication	9(5.3%)	16(8.0%)	-1.004	.315	133(78.7%)	165(82.1%)	-.820	.412	27(16.0%)	20(9.9%)	-1.732	.083
Injury/risk	39(23.4%)	39(19.2%)	-.971	.332	127(76.0%)	164(80.8%)	-1.106	.269	1(0.6%)	0(0.0%)	-1.103	.270
Education	41(24.1%)	57(28.2%)	-.893	.372	128(75.3%)	145(71.8%)	-.762	.446	1(0.6%)	0(0.0%)	-1.090	.276
Body image	41(24.1%)	55(27.4%)	-.710	.478	127(74.8%)	145(72.1%)	-.556	.578	2(1.2%)	1(0.5%)	-.727	.467
Fluid balance	63(37.7%)	64(31.8%)	-1.180	.238	100(59.9%)	132(65.7%)	-1.144	.252	4(2.4%)	5(2.5%)	-.057	.955

Note. Differences in the percentages for items with the same 'n' are due to missing data

Table 10

The 14 Patient Care Goals with Significant Differences in the Proportions of the Groups Choosing Each Type of Goal (Nursing, Shared, and Another's) Using the z Test

Goal	Nursing goals				Shared goals				Another's goals			
	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p
Infection	64(37.6%)	52(25.9%)	-2.435	.015*	106(62.4%)	149(71.1%)	-2.435	.015*	0(0.0%)	0(0.0%)	.000	1.000
Health management	8(4.8%)	39(19.4%)	-4.195	.000***	160(95.3%)	162(80.6%)	-4.195	.000***	0(0.0%)	0(0.0%)	.000	1.000
Selfcare	47(27.8%)	86(42.4%)	-2.912	.004**	119(70.5%)	115(56.7%)	-2.733	.006**	3(1.8%)	2(1.0%)	-.658	.511
Sleep	66(39.6%)	105(51.7%)	-2.340	.019*	100(59.9%)	95(46.8%)	-2.505	.012*	1(0.6%)	3(1.5%)	-.813	.416
Home maintenance	10(5.9%)	41(20.4%)	-4.040	.000***	128(75.3%)	140(69.7%)	-1.208	.227	32(18.8%)	20(10.0%)	-2.450	.014*
Sensory deficit/overload	50(30.3%)	87(43.7%)	-2.626	.009**	107(64.8%)	110(55.3%)	-1.850	.064	8(4.8%)	2(1.0%)	-2.230	.026*
Role performance	15(9.0%)	32(15.8%)	-1.947	.052*	124(74.3%)	160(78.8%)	-1.033	.301	28(16.8%)	11(5.4%)	-3.533	.000***
Family relationships	23(13.8%)	50(24.8%)	-2.632	.008**	128(76.6%)	150(74.3%)	-.529	.597	16(9.6%)	2(1.0%)	-3.808	.000***
Sexual functioning	10(6.3%)	21(10.4%)	-1.377	.168	108(68.4%)	167(83.1%)	-3.268	.001**	40(25.3%)	13(6.5%)	-4.991	.000***
Spiritual well-being	5(3.0%)	14(6.9%)	-1.726	.084	128(75.7%)	171(84.7%)	-2.159	.031*	36(21.3%)	17(8.4%)	-3.528	.000***
Cognitive abilities	14(8.3%)	27(13.4%)	-1.570	.117	123(72.8%)	153(76.1%)	-.734	.463	32(18.9%)	21(10.4%)	-2.318	.020*
Health decision making	43(25.7%)	63(31.0%)	-1.118	.264	119(71.3%)	140(69.0%)	-.478	.633	5(3.0%)	0(0.0%)	-2.479	.013*
Social interaction	21(13.3%)	38(18.7%)	-1.580	.114	128(77.1%)	156(76.8%)	-.059	.953	17(10.2%)	9(4.4%)	-2.166	.030*
Coping mechanisms	21(12.4%)	39(19.2%)	-1.793	.073	133(78.2%)	158(77.8%)	-.093	.926	16(9.4%)	6(3.0%)	-2.632	.008**

Note. Differences in the percentages for items with the same 'n' are due to missing data *p<.05 **p<.01 ***p<.001

Educational Preparation and Practice Spheres

The Practice Spheres instrument measured participants' views of their own profession and their perceptions of how other professionals view nursing, with consistency in these two sets of views indicative of recognizing, accepting, and respecting both separate and combined practice spheres. The overall consistency in these two sets of views is compared, along with the consistency for each item. To shed further light on this dimension of collaboration, the groups mean scores for each set of views are compared, as well as the responses to each item.

With respect to consistency there were few differences between the groups. There was no significant difference in the average number of consistently scored items (see Table 11) and no significant differences in the proportion of consistent answers for 10 of the 15 items (see Table 12). On 3 of the 5 items for which there were significant differences, the Diploma/Baccalaureate group were significantly more consistent: encroachment on others' territories, use of others' capabilities, and educational preparation. (Comparisons within this group indicated those with a Diploma in nursing were significantly more positive in their view of nurses' use of others' capabilities than those with a Baccalaureate degree.) The Masters/Doctoral group were significantly more consistent on the other 2 items: expectations of others and defensiveness about prerogatives.

Table 11

Comparion of the Groups' Average Number of Consistently Scored Items (Own View and Others' View) Using the t Test

Group	Mean	Standard Deviation	t value	p
Diploma/baccalaureate	10.20	2.65	.975	.330
Masters/doctoral	9.88	2.85		

Note. df=273.62 Equal variances assumed for df, t value, & t probability as Levene's significance was .41

The comparative scores for each set of answers (own view and others' view) are presented in Table 13. These data indicates the groups held reasonably similar and positive views. Additionally, there were no significant between group differences (own view or other's view) on 7 items of the 15 items (see Table 14). With respect to their own view of nursing, there were 4 items where the Diploma/Baccalaureate group held significantly more positive views and 1 item where they were significantly less positive. While both groups considered nurses to have good relationships with others and to understand their capabilities, the Diploma/Baccalaureate group was significantly more positive in these views. And although neither group had particularly positive views about the extent to which nurses use others' capabilities, this group was once again significantly more positive. Their view on nurses' educational preparation was also more positive, while their view on nurses' autonomy was less so. With respect to how others view nurses, the Diploma/Baccalaureate group was significantly more positive about the extent to which nurses use their capabilities and nurses' educational preparation, and significantly less positive about nurses' expectations of others. (Comparisons within the groups indicated that with respect to fully using others' capabilities [own view and others' view] significantly more Diploma prepared than Baccalaureate prepared participants thought this was so.) Finally, the Masters/Doctoral group was significantly more likely to think others perceive nurses as uncooperative and as encroaching on others' territories.

In summary, as the average number of consistently scored items was close to 10 out of 15 for both groups, and both held consistent views on 10 of these items, it can be concluded that the groups were equally consistent in their views of nurses and their perception of others views of nurses. Additionally, although the Diploma/Baccalaureate group held significantly more positive views on 8 items, both held generally positive views about their profession and thought others' shared those views.

Table 12

Comparison of the Proportion of Each Group with Consistent Answers (Own View and Others' View) for Each Item Using the z Test

Item	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p
Competence	159(93.5%)	178(89.9%)	-1.24	.212
Autonomy	57(35.6%)	76(38.4%)	-.536	.592
Understanding others' capabilities	116(70.7%)	137(69.2%)	-.317	.751
Concern for patients	160(97.0%)	191(96.5%)	-.268	.789
Ethics	152(92.7%)	179(93.7%)	-.386	.699
Relative status	131(79.9%)	164(85.9%)	-1.498	.134
Trust of others' judgment	134(82.2%)	151(76.6%)	-1.291	.197
Willingness to ask advice	135(82.8%)	157(78.1%)	-1.121	.262
Cooperation	144(85.7%)	154(78.2%)	-1.853	.064
Relationships with others	144(88.9%)	159(81.5%)	-1.927	.054
Encroachment on others' territories	33(19.8%)	25(12.3%)	-1.978	.048*
Use of other' capabilities	67(40.4%)	56(28.0%)	-2.489	.013*
Educational preparation	111(68.5%)	82(42.3%)	-4.944	.000***
Expectations of others	84(52.5%)	134(69.4%)	-3.254	.001**
Defensiveness about prerogatives	53(33.1%)	84(43.5%)	-1.993	.046*

Note. Differences in percentages for items with the same n are due to missing data

*p<.05 **p<.01 ***p≤.001

Table 13

Group Comparison of Scores for Participants' Own View of Their Profession and Their Perception of Others' View of Them Using the t Test

Scores	Mean	Standard Deviation	t value	p
Own view				
Diploma/baccalaureate	12.29	1.75	1.23	.220
Masters/doctoral	12.02	2.15		
Others'views				
Diploma/baccalaureate	10.66	2.54	1.12	.264
Masters/doctoral	10.32	2.65		

Note. Own view: df=315.90 Equal variances assumed for df, t value, and t probability as Levene's significance was .21 Others' view: df=270.92 Equal variances assumed for df , t value, and t probability as Levene's significance was .62

Table 14

Group Comparison of Answers to Individual Practice Spheres Items for Their Own View of Nursing and Their Perception of Others' View of Nursing Using the z Test

Item	Own view				Others' view			
	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p	Diploma/ baccalaureate n(%)	Masters/ doctoral n(%)	z value	p
Competence	171(98.8%)	198(97.5%)	-.933	.351	160(94.7%)	182(92.0%)	-1.043	297
Concern for patient	171(99.4%)	202(98.0%)	-1.151	.250	160(97.0%)1	191(96.5%)	-.268	.789
Ethics	164(97.0%)	192(97.0%)	-.040	.968	154(93.3%)	182(95.3%)	-.798	425
Trust of others' judgments	154(90.6%)	183(90.1%)	-.143	.886	141(87.6%)	162(82.2%)	-1.393	.164
Relative status	159(91.9%)	187(93.5%)	-.591	.554	140(85.9%)	172(90.1%)	-1.206	.228
Willingness to ask advice	166(96.0%)	190(92.7%)	-1.351	.177	136(83.4%)	157(78.1%)	-1.273	.203
Defensiveness about prerogatives	86(52.1%)	123(61.5%)	-1.800	.072	60(38.5%)	90(47.1%)	-1.617	106
Relationship with others	163(96.4%)	180(90.0%)	-2.409	.016*	145(89.5%)	163(83.6%)	-1.615	.106
Understanding of others' capabilities	160(93.6%)	176(86.3%)	-2.301	021*	117(71.3%)	139(70.5%)	-.163	.871
Use of other's capabilities	91(53.8%)	82(40.4%)	-2.587	.010*	74(46.2%)	66(33.8%)	-2.376	.018*
Educational preparation	154(90.6%)	149(74.9%)	-3.921	.000***	115(71.0%)	90(46.4%)	-4.669	.000***
Autonomy	98(59.8%)	144(71.3%)	-2.513	.021*	74(47.1%)	90(45.7%)	-.271	.786
Expectations of others	143(83.6%)	172(85.1%)	-.404	.686	89(56.0%)	138(71.9%)	-3.098	.002**
Cooperation	161(94.2%)	184(91.5%)	-.966	.334	147(88.6%)	154(78.2%)	-2.615	.009**
Encroachment on others' territories	65(38.5%)	76(37.6%)	-.165	.869	40(24.2%)	28(14.0%)	-2.498	.012*

Note. Percentages for items with the same 'n' may vary due to missing data *p<.05 **p<.01 ***p<.001

Educational Preparation and Power/control

The Power/control instrument measured participants' sense of powerlessness. The comparative scores are described, along with the proportion of each group in each level of powerlessness (low, moderate, high).

Group Comparison of Powerlessness Scores and Levels of Powerlessness

Although the scores for both groups spanned the full range of scores (0 to 14), the mean scores revealed both groups to be relatively low in their perceptions of being powerless. In spite of this, the comparisons indicated that the Diploma/Baccalaureate group was significantly more powerless than the Masters/Doctoral group. The Diploma/ Baccalaureate group had significantly higher powerlessness scores (see Table 15), and significantly more of this group scored in the high powerlessness level (see Table 16). Additionally, significantly more of the Masters/Doctoral group scored in the low powerlessness level (see Table 16).

Table 15

Group Comparison of Powerlessness Scores Using the t Test

Group	Mean	Standard Deviation	t value	p
Diploma/baccalaureate	4.41	3.75	5.43	.000***
Masters/doctoral	2.42	3.08		

Note. df=319.62 Equal variances not assumed for df, t value, and t probability as Levene's significance was .000

***p<.001

Table 16

Group Comparison of Levels of Powerlessness (Low, Moderate, and High) Using the z Test

	Frequency & percentage by group	
Level	Diploma/baccalaureate	Masters/doctoral
Low	70(41.2%)	131(66.8%)***
Moderate	35(20.6%)	38(19.4%)
High	65(38.2%)***	27(13.8%)

***p<.001

Professional Identity, Educational Preparation, and the Four Dimensions of Collaboration

Lawler's (1988) Health Care Professional Attitude Inventory measured participants' professional identity. In this instrument scores range between 38 and 190 with the higher the score, the stronger the professional identity. The professional identity scores for the two groups are compared and the relationship between these scores and each of the four dimensions of collaboration is described.

Educational Level and Professional Identity

The professional identity scores of both groups were compressed at the high end of the scale (see Table 17). In spite of this, there were significant differences between the two groups, with the Masters/Doctoral group having significantly higher scores than the Diploma/Baccalaureate group .

Four Dimensions of Collaboration and Professional Identity

For both groups, correlations between each of the four dimensions of collaboration and professional identity were examined. The only relationships found were for the Masters/Doctoral group; unexpected weak relationships with practice spheres and with power/control (see Table 18). These findings indicate that for nurses prepared at the

Masters/Doctoral level, the stronger their professional identity the less likely they were to be consistent in their views, to view their own profession positively or to think others would do the same, and the more likely they were to feel powerless.

Table 17

Group Comparison of Professional Identity Scores Using the t Test

Group	Mean	Standard Deviation	t value	p
Diploma/baccalaureate	135.65	9.25	-4.67	.000***
Masters/doctoral	140.33	10.04		

Note. df=364.76 Equal variances assumed for df, t value, and t probability as Levene's significance was .29

***p<.001

Table 18

Relationship of Each Group's Professional Identity Scores to the Four Dimensions of Collaboration Using Correlation Coefficients

	Correlations coefficients[a] by group	
Dimension	Diploma/baccalaureate	Masters/doctoral
Mutual concern scores	.051	-.054
Patient care goals		
No. of nursing goals	.092	.085
Clinical nurse specialist	-.076	-.089
No. of anothers' goals	-.011	.041
Practice spheres		
No. of consistently scored items	-.136	-.223**
Own view score	-.129	-.259**
Others' view score	-.087	-.259**
Power/control score	.182	.202**

[a]Spearman's correlation coefficient used for: Mutual concerns and number of consistently scored items in Practice spheres. Pearson's correlation coeffient used for: Patient care goals (nursing, shared, another), own view and others' view scores in Practice spheres, and Power/control.

**p<.01

CHAPTER FIVE

DISCUSSION

The purpose of the study was to discover whether level of educational preparation impacted on nurses' perception of their collaboration with other health professionals and whether there was a relationship between perceptions of collaboration and professional identity. The findings of this study indicate that level of educational preparation does impact on nurses' perceptions of interprofessional collaboration. The data show that those prepared at the higher educational level (Masters/Doctoral) performed significantly better than those at the lower educational level (Diploma/Baccalaureate) on three of four dimensions of collaboration. Level of preparation had a notable impact on two dimensions (mutual safeguarding of concerns and power/control), a less pronounced impact on patient care goals, and little if any impact on practice spheres. There were weak but unexpected relationships between professional identity and two dimensions of collaboration (practice spheres and power/control) for the Masters/Doctoral group. Before discussing these findings some demographic characteristics of the study participants warrant comment.

The number of years participants had been in nursing, as well as in their places of employment, is noteworthy. Discernibly fewer had been in nursing for 6 to 10 years compared to 11 to 30 years, and in their positions for 8 to 12 years compared to 1 and 7 years or over 12. This is likely related to the cutbacks in nursing positions that took place in the early 1990's. During those years many less experienced nurses sought employment elsewhere. This downsizing likely accounted in part for the disproportionate number of Diploma prepared nurses in the Diploma/Baccalaureate group. Although the proportion of Baccalaureate graduates has increased steadily over the past 5 to 10 years, the new graduates are the ones who find it particularly difficult to secure employment in times of economic restraint.

Educational Level and Collaboration

Before discussing the findings for the collaboration dimensions, the potential influence of other participant characteristics such as personal attributes and contextual factors, is addressed. In this study the Masters/Doctoral group had more years of nursing experience, worked in more diverse settings, and held a broader range of positions. The Diploma/Baccalaureate group had been in their places of employment for longer. The latter were most likely to be care facilities where they held staff nurse positions. As collaboration is impacted by personal, professional, and contextual factors, it is not unreasonable to expect that these differences influenced study results. However, research into the impact of such characteristics has produced inconclusive results. While Weiss and Davis (1985) found position (educator, administrator and researcher vs. staff nurse) to impact positively on collaboration, in Jones' (1991) study, nurses in leadership positions were less collaborative. Alt-White et al (1983) found those with more experience to be less collaborative, while Baggs and Ryan (1990) found no relationship with experience. While these divergent results make it difficult to surmise the influence such characteristics may have had here, this study does indicate that level of educational preparation is one factor that should be given due consideration in collaborative endeavors.

Mutual Safeguarding of Concerns

The findings pertaining to mutual safeguarding of concerns are noteworthy because even though both groups' scores were concentrated at the 'collaboration' end of Jones' (1991) 5 point grid (0 to 4), the average score of the Masters/Doctoral group was significantly higher, and significantly more of this group had the highest score (4), while significantly more of the Diploma/Baccalaureate group scored 3. This means that the Masters/Doctoral prepared nurses were significantly more likely to be concerned with meeting others' needs as well as their own.

Other researchers have included mutual safeguarding of concerns in their studies of collaboration. Weiss and Davis (1985), the originators of the instrument used in this study, found higher levels of educational preparation were predictive of nurses' performance on the instrument. However, Jones (1991), as well as Baggs and Ryan (1990) used the same instrument and did not find educational level to impact nurses' scores. As educational preparation was not the focus of Jones' or Baggs and Ryan's studies, and both studies had relatively small samples, this difference may have gone undetected. Bournazos (1993) used a modified version of this instrument to study the extent of collaboration among physicians, nurses, and social workers. She isolated two factors in the instrument, Consensus and Mutual Respect. While there were no significant differences for Consensus, she found nurses and social workers rated physicians significantly higher on Mutual Respect than physicians rated nurses or social workers. Although Bournazos did not examine educational level, it is interesting to note that of the 96 nurses in her study, 2 had Masters degrees, 47 had Baccalaureate degrees, 28 had Associate degrees, and 19 had Diplomas. It may be that if the nurses had been more highly educated, physicians would have given nurses higher Mutual Respect ratings. Arslanian-Engoren's (1995) study involved nurses with higher education in her research on collaboration. Participants in her phenomenological study of CNS-physician collaboration had Masters and Doctoral preparation. These nurses indicated their advanced education enhanced their ability to collaborate with physicians. Further, one component they considered essential to enacting the role of clinical expert was mutual trust and respect. While these studies do not point to a definitive conclusion about mutual safeguarding of concerns, the notably significant differences in this study (where educational preparation was the main variable) lend some support to the idea that those with higher levels of education will be more effective collaborators.

Power/control

Similarly, notable group differences were found for the power/control dimension. Although powerlessness scores for both groups were concentrated at the low end of the scale, the Diploma/Baccalaureate group had significantly higher scores as well as significantly more scores at the high powerlessness level, while the Masters/Doctoral group had significantly more scores at the low level. This means that those prepared at the higher educational level are likely to bring a greater sense of power/control to their collaborative relationships. Jones' (1991) study is the only other collaboration study that examined the impact of educational level on power/control. In her study of nurse-physician collaboration, educational preparation did not impact on nurses' perceptions of power/control. However, this may have been due to the small number of participants in each of her four educational categories. Power/control did arise as a theme in two grounded theory studies of nurse-physician collaboration. The nurses in Baggs and Schmitt's (1997) study of the process of collaboration in Medical Intensive Care Units considered situations of power disparity as evidence of non-collaboration. In Weiss and Remen's (1983) study, 23 categories of data reflecting nursing powerlessness were identified, 15 resulting from behaviors of the nurses themselves.

The conceptualization of power used in this study (the ability to influence decision-making) was addressed in two studies of nurse-physician collaboration. Baggs et al (1992) studied the relationship of collaboration to ICU patient outcomes and found the association between satisfaction with decision-making and collaboration was significant and strong for nurses, and significant and weak for physicians. They also found that while the amount of collaboration reported by nurses was significantly and positively associated with patient outcomes, the same was not true for the physicians. In Baggs and Schmitt's (1995) study of decision-making about level of aggressiveness of care for ICU patients, nurses' perceptions of collaboration in specific situations was strongly related to satisfaction with decision-making. Baggs et al suggest the nurses may have seen

collaboration as a way to influence decision-making, while physicians thought it was less important because of their ultimate authority over decision making. Similarly, in Temkin-Greener's (1983) case study of interdisciplinary teamwork the nurses saw teams as a way to achieve autonomy and status, while the physicians thought interdisciplinary teams were a nursing invention constructed to take away from medicine's traditional authority. Whether or not nurses' perceptions of their ability to influence decisions would be the same in relationships where there is less differential in authority is unknown. However, given the notable differences between the two groups in this study, it appears that nurses with higher levels of educational preparation are more likely to perceive themselves as being able to influence decision making in their collaborative endeavors with other health professionals.

Patient Care Goals

As there were no significant group differences in the number of goals considered to be primarily in nursing's domain or shared with other professionals, the impact of educational preparation on patient care goals is judged to be less convincing. However, there was some evidence that the Masters/Doctoral prepared group were stronger in this dimension. The Diploma/Baccalaureate group considered significantly more goals to be in another profession's domain. Additionally, the Masters/Doctoral group saw a significantly stronger role for nursing in 13 goals: 7 they considered as primarily in nursing's domain the Diploma/Baccalaureate group considered as shared with other professions, and 6 they considered as shared, the Diploma/Baccalaureate group considered to be in another's domain. There was just 1 goal for which the Diploma/Baccalaureate group saw a significantly stronger role for nursing, a goal they thought was primarily nursing and the Masters/Doctoral group thought was shared.

In Jones' (1991) study of nurse-physician collaboration, educational level did have an impact on the goal dimension. However, the significant differences were for the

physicians and not the nurses. More of the physicians with post-medical degrees (as compared to those without such degrees), considered 6 of the 24 goals to be nursing goals, rather than shared goals. This finding supports the idea that educational level has an impact on this dimension of collaboration.

It is interesting to note that while the physicians with higher levels of education in Jones' study saw a significantly weaker role for medicine and stronger role for nursing, in this study the nurses with higher levels saw a stronger role for nursing. As the patient care goals in this study were based on a nursing framework, this discrepancy is likely appropriate. This finding may also have to do with the hierarchical and status differences that exist between these two professions. As physicians have higher status and greater decision-making authority, they may be more willing to relinquish some control, while nurses may be seeking to increase their authority and control.

The fact that both groups considered this set of goals to be shared, rather than primarily nursing warrants further consideration. As these goals are based on Gordon's (1994) nursing diagnosis, a taxonomy intended to clarify nursing's contribution to, and accountability for patient care, it is somewhat surprising that they were not considered to be 'primarily nursing'. This finding may have to do with the goal statements themselves; as they are quite broad, it is possible they fall short of differentiating nursing's unique perspective. It may also be that the study participants were somewhat unclear about this perspective. There is some evidence in the literature to support this idea. In Weiss and Remen's (1983) nurse-physician collaboration study, nurses were found to invalidate their professional expertise, considering most of their contributions to be based on common sense rather than professional knowledge. Weiss (1983) engaged nurses, physicians, and consumers in a series of dialogue sessions about professional roles and found role overlap predominated, with no unique role for nursing. In Bournazos (1993) study of interprofessional perceptions and collaboration the roles of physicians and social workers on the medical/surgical units were clearer than the role of the nurses. Waters

and Luker (1996) studied the roles of geriatric rehabilitation professionals and discovered the nursing role was difficult to elucidate. While this nursing role was considered important, it revolved around basic care and maintenance, rather than actual rehabilitation.

Kane (1975) indicates there has always been continuous play between unique and overlapping roles, and reluctance to differentiate between the two is not unusual. This may be particularly so for nurses, given their historical claim to holistic care. Additionally, some consider role differentiation to be short-sighted. The Alberta Association of Registered Nurses (1993) states that distinct disciplinary boundaries are "an illusory and unwise goal and (are) counterproductive to the advancement and refinement of health care" (p.11). Similarly, the American Nurses Association (1980) cautions against restricting opportunities for expansion and flexibility in roles. In their view, if this were to happen nurses would be prematurely and unjustly limited in their practice. While role rigidity can hamper the flexibility and role negotiation required in interprofessional work (Conway, 1988b; Ducanis & Golin, 1979), complex social units also require role differentiation if they are to function well (Conway). As Conway notes, role flexibility inherent in the interactionist perspective on roles, and role differentiation inherent in the functionalist perspective, are both required in complex environments.

However, lack of role clarity has a number of implications for nurses' collaboration with other health professionals. First, if nursing is unclear about its unique perspective it will be difficult to develop knowledge that is unique to the discipline (Orlando & Dugan, 1989). This in turn will limit nursing's contribution to interprofessional collaboration. As noted by O'Conner (1993) lack of role clarity has contributed to nursing not having the interventions needed to make meaningful contributions within multidisciplinary teams. Role ambiguity also impacts nurses' sense of power/control. According to Loxley (1997), without goal clarity it is unlikely nursing will acquire the power required for effective collaboration. Loxley also notes that power comes from the profession's

ability to establish autonomy and control over its domain. Elovainio and Kivimaki (1996) studied occupational stresses in Finnish nurses and found that goal clarity contributed to a sense of control over work events. Weiss (1984) states that until nurses are clear about their unique role, their activities will continue to be defined by others. This may be particularly so with respect to medicine. According to Steel (1986), if nurses are to overcome medicine's dominance they must understand the nature and scope of their practice.

Finally, role ambiguity will impede the effectiveness of interprofessional collaboration. If nurses are unclear about their unique role, those with whom they work will also be unclear, which according to Weiss (1983), leads to "pseudocollaboration based on misconceptions and disparate expectations" (p.133). Also, many of the difficulties experienced in collaboration have been attributed to role ambiguity, role overlap, and misconceptions (Benson & Ducanis, 1995; Fagin, 1992; Furnham, Pendleton & Manicom, 1981; Hammond, Bandak, & Williams, 1999; Mariano, 1989; Weiss). If role clarity is lacking there is increased likelihood of territorial disputes and role conflict, resulting in ineffective collaboration. Given that clarity about patient care goals is important to effective collaboration and the Masters/Doctoral group saw a significantly stronger role for nursing on a number of individual goals, those with higher educational preparation may be in a somewhat better position to be effective collaborators.

Practice Spheres

As both groups were equally consistent in their views of nurses and their perceptions of others' views, educational level had little impact on the practice spheres dimension of collaboration. This consistency indicates that both groups recognize, accept, and respect both separate and overlapping spheres. In one sense this seems to contradict the patient care goals findings, wherein the nurse participants lacked clarity about the goals that are

in their domain. However, the Interprofessional Perception Scale (IPS) measures role clarity in a relational sense (Benson & Ducanis, 1995), that is, role clarity is considered present if there is minimal dissonance between how nurses perceive themselves and how they think others perceive them. This is not the same as lacking clarity about the content of a particular sphere or domain. Thus, although the nurses in this study demonstrated relational role clarity, they lacked clarity about the unique content of the nursing sphere itself. Loxley (1997) argues that if collaboration is evaluated on the extent to which people are getting along, core issues (e.g. differences in status) are likely being ignored for the sake of harmony. She contends "the masking of difference is dangerous, for difference is legitimate and necessary to representing the wholeness of individuals in complex situations" (p.43). Thus it may be that clarity about patient care goals is the better measure of role clarity.

Further examination of the IPS instrument revealed that while overall both groups were equally consistent in their answers to Level 1 and Level 11 questions, there were 3 items for which the Diploma/Baccalaureate group was significantly more consistent, and 2 for which the Masters/Doctoral group was more consistent. These findings indicate that those prepared at the Diploma/Baccalaureate level have greater relational role clarity with respect to encroachment on others' territories, use of others' capabilities, and educational preparation, while the Masters/Doctoral group has greater clarity regarding expectations of others and defensiveness about prerogatives. Benson and Ducanis (1995), the only others to look for individual item consistency between Level 1 and 11 answers, found no significant differences for all items.

While two studies on interprofessional collaboration addressed clarity about practice spheres, neither are particularly useful in explaining the results of this study. Although Bournazos (1993) also used the IPS, she did not analyze the data by Level or by item. Jones (1991), on the other hand, used a tool she developed for nurse-physician collaboration. However, there are three studies of role perception that do shed some light

on these findings. In developing the IPS instrument Ducanis and Golin (1979) carried out two studies, one that included nurses and one that did not. In both instances there was general consistency between Level 1 (views of one's own role) and Level 11 (perceptions of others' views of one's role). In their role perception study of rehabilitation staff, Benson and Ducanis (1995) also found consistent views between Level 1 and Level 11. They note that the 14 nurses in their study were all Certified Rehabilitation Registered Nurses and suggest this background and status may have led to the consistency in views. As the level of educational preparation of these nurses was quite varied (9 had nursing Diplomas, 3 had Associate degrees, 1 had a Baccalaureate degree, and 1 had a Masters degree), this idea may hold some credence. However, the findings of this study do not lend strong support to this idea. Even though specialty preparation usually occurs at the graduate level, both the entry level group and the graduate level group held consistent views. That said, the extent to which the nurses in this study held clinical specialty credentials is unknown.

While overall, nurses' views of nursing and their perceptions of others' views of nursing were reasonably positive there are a number of individual items that warrant further discussion. With respect to education, although participants viewed nurses' educational preparation quite favorably, they were less inclined to think others would do the same. This may be because physicians, as well as most therapists, are prepared at the undergraduate degree level, whereas at the time of this study the majority of nurses in Alberta were prepared at the diploma level. The fact that the entry level prepared group had significantly more favourable views of nurses' educational preparation than the graduate level prepared group is also interesting. It may be that the entry level group who were primarily staff nurses thought their education prepared them well for these positions, while the graduate prepared group, working in a wider variety of settings and positions, were more aware of the educational discrepancies between nurses and other professionals.

The participants in this study did not have a strong sense of autonomy and were even less likely to think others viewed them as autonomous. This finding has implications for the power/control dimension of collaboration. A profession's power is dependent upon its autonomy (Loxley, 1997) which empowers its members to make independent decisions, control their own work and do all they were trained to do (Conway, 1988a). As study participants had relatively low powerlessness scores this perceived lack of autonomy is somewhat surprising. The explanation for this may lie in the conceptualization of power used in this study, which was the ability to influence decision-making. Thus, although participants were able to influence decision-making in the workplace, they were not able to fully implement and control their independent scope of practice. As significantly more of the Masters/Doctoral group viewed nurses has being autonomous and this group scored significantly better on the power/control dimension, this situation may be less exaggerated for this group.

Two items (defensiveness about prerogatives and encroachment on others' territories), are associated with two factors important in interprofessional collaboration: role clarity and role overlap. The findings for these items indicate that the nurses in this study were not only defensive about their own territory, but also were likely to encroach on others' territories. The literature suggests professionals will be more comfortable with role overlap and less defensive about encroachment if they are confident in their unique roles. As the nurses in this study did not identify a unique nursing role, this finding is likely not surprising. The tension between nurses and social workers over which profession is responsible for psychosocial needs (Ben-Sira & Szyf, 1992; Cowles & Lefcowitz, 1992; Egan & Kadushin, 1995; Kulys & Davis, 1987) may be reflective of this situation. These tensions are thought to exist because both professions are struggling with their similarities and differences as they seek to define their respective unique identities (Harbison & Melanson, 1987; Kane, 1975; Loxley, 1997). This lack of role

clarity also impedes the development of nursing knowledge which makes nursing even more vulnerable to the encroachment of other professions (Smith, 1992).

The results pertaining to understanding and using others' capabilities are also interesting. While both groups were quite positive about nurses' understanding of others' capabilities, when it came to actually using those abilities the findings were less favorable. While this may simply reflect the realities of the workplace it could also be indicative of a reluctance to restrict their scope of influence. It is also noteworthy that the Diploma/Baccalaureate group was significantly more positive about both these items, and that comparisons within the groups indicated that it was the Diploma prepared nurses that were particularly strong in their views about using others' capabilities. It may be that the work settings of these participants were more conducive to using others' capabilities, or that they were less reluctant to restrict their scope of influence.

Professional Identity, Educational Level, and Collaboration

The analysis of the professional identity data indicated that although the scores of both groups were compressed at the high end of the scale, the Masters/Doctoral group had significantly higher scores. This finding is congruent with other studies where professional identity was stronger for those with higher educational levels (Corwin, 1961; Hillery, 1991; Kramer, 1968; Stemple, 1988). The results of this study give further credence to the idea that the longer one is immersed in disciplinary education and practice, the stronger one's professional identity becomes.

In the literature, professional identity is closely linked to role clarity, power/control, and autonomy. In the absence of professional identity, role clarity gives way to role blurring and confusion (Loxley, 1997), which in turn undermines a profession's power and control (Elovainio & Kivimaki, 1996; Loxley). Further, according to Loxley, power is dependent on the profession's ability to establish autonomy and control over its own work. Given these connections, it would be reasonable to expect that strong

professional identity scores would go along with strong role clarity, power/control, and autonomy. However, while participants were strong on professional identity and power/control, they were less so with respect to role clarity and autonomy. This may mean that professional identity is not as closely linked to role clarity and autonomy as was thought. It may also be that professionalism, as measured in this study, is not the same as identity with a particular profession, in this case nursing. The lack of perceived autonomy may have to do with the educational and experiential socialization of the participants. As Ryan and McKenna (1994) note, physicians are socialized to be omnipotent and nurses to be dependent, obedient, and subservient. Although this situation is changing, the extensive experience of the participants (11-30 years) suggests that for a good part of their professional lives, subservience was likely considered more important than autonomy.

As the Masters/Doctoral group was significantly stronger with respect to autonomy and power/control and saw a stronger role for nursing in relation to particular patient care goals, the inconsistencies between professional identity, and role clarity and autonomy may be less exaggerated for this group. It may be that throughout their years of practice and further education the interactionist perspective of role theory predominated over the functionalist perspective, with the transformative and reconstructive elements inherent in this perspective placing them in a somewhat better position with respect to collaboration.

The only relationships between professional identity and collaboration were for the Masters/Doctoral group where there were unexpected weak relationships with practice spheres and power/control. These findings indicated that for nurses prepared at the graduate level, the stronger their professional identity, the less likely they were to view their own profession positively or to think others would do the same, the more likely they were to feel powerless, and the less likely their views of nursing would be consistent. The only collaboration study to refer to professional identity was that of Weiss and Remen (1983) who concluded that because the nurses in their study considered nursing

to be a job rather than a profession, their collaboration with physicians would be impeded. This is of limited assistance in understanding the results found here. As there were no relationships between professional identity and the collaboration dimensions for the Diploma/Baccalaureate group, and the relationships that existed for the Masters/ Doctoral group were weak, it can likely be concluded that there is little if any relationship between professional identity and collaboration. However, the unexpected findings for the Masters/Doctoral group do warrant some consideration.

The negative relationships between professional identity and how this group viewed their own profession, as well as how they thought others viewed it, suggests that the stronger their professional identity, the more critical they were of it and the more aware they were of others' criticism. The relationship between professional identity and power/control indicated that the stronger their professional identity, the more likely the Masters/Doctoral group was to feel powerless. It may be that the graduate prepared nurses in this study were not experiencing the anticipated status benefits of higher educational levels such as greater interprofessional equality and less domination by others. However, as this group's powerlessness scores were very low this finding may have little impact on their collaboration with other health professionals.

The unexpected relationship between professional identity and practice spheres for the Masters/Doctoral group also warrants comment. The stronger the professional identity score, the less likely this group was to be consistent in its view of nursing and how it considered others to view nursing. As discussed above, consistency occurs when there is minimal dissonance between these two sets of views. From that perspective, the negative relationship between professional identity and consistency means that the stronger the professional identity, the more dissonance there is likely to be between these two sets of views. This suggests that while those with Masters or Doctoral nursing degrees were likely to be better collaborators on some fronts, their strong professional identity may hamper some aspects of collaboration. Jones (1991) found nurses aged 32

to 43 in leadership positions to be less collaborative. As nurses in leadership positions are often those with higher educational levels her findings lend some support to the potentially negative impact of higher educational levels, on collaboration found in this study.

There are two aspects of professional identity discussed in the literature that shed some light on this finding. The first pertains to Petrie's (1976) premise that the specialized disciplinary focus of graduate education makes students less inclined to participate in interdisciplinary activities. He contends that the disciplinary competency and security that underpins graduate education is contrary to the broad interests and imaginative speculation that is required in interprofessional work. Therefore it may be that to some extent graduate preparation is a deterrent rather than an asset to interprofessional collaboration. As Petrie notes, the right blend between disciplinary competence and broad interest is hard to come by. The second aspect pertains to the very nature of professions. According to Ducanis and Golin (1979), the word 'profession' originally referred to the act of 'professing', with professionals professing to know better than others because of their special knowledge and skills. Mariano (1989) indicates this specialized education contributes to professionals believing their discipline is sovereign. Ducanis and Golin describe professions as involving "intellectual activities, based on science and learning, used for practical purposes, which can be taught, are organized internally, and are altruistic" (p.12). They further note that altruism sets professional work above other endeavors (such as trades), making it an end in itself rather than just a means to an end. As effective collaboration requires cooperative planning and decision-making (Henneman et al, 1995) and approximate equality of influence (Pehl, 1988), this separateness and superiority may hamper interprofessional work. Thus, although the results of this study provide little evidence of a relationship between professional identity and collaboration, the possibility of professional identity having a negative impact on collaboration should not be discounted.

CHAPTER SIX

CONCLUSIONS, LIMITATIONS, AND IMPLICATIONS

This chapter begins with conclusions that can be drawn from this study, followed by the study limitations. The implications for research, the discipline, as well as practice and education conclude this last chapter.

Conclusions

This study addressed gaps in the collaboration literature pertaining to educational preparation and professional identity. Although some collaboration studies had included educational preparation as a variable, there were none in which this was the one of primary interest, nor were there any that had examined the relationship between collaboration and professional identity. The findings for three of the four dimensions of collaboration examined indicated that overall, both groups (Diploma/Baccalaureate and Masters/Doctoral) are reasonably well prepared to collaborate with other health professionals. Both groups were concerned about meeting others' needs as well as their own, bringing a sense of power/control to their interprofessional relationships, and recognizing, accepting, and respecting both separate and overlapping practice spheres. However, the findings for the fourth dimension of collaboration (patient care goals) were less definitive, with some evidence of lack of clarity about nursing's unique role which according to the literature, impacts negatively on collaboration. The findings of this study indicate that educational level does impact nurses' interprofessional collaboration, with those prepared at the higher educational level (Masters/Doctoral) being significantly more likely to be as concerned about meeting others' needs as they are their own, and to bring a sense of power/control to their interprofessional relationships. This group also saw a stronger role for nursing on a number of individual patient care goals, which may further enhance their collaborative abilities. The findings also suggest that this group's stronger professional identity may mean these nurses are highly critical of nursing,

experience some frustration in influencing decisions, as well as greater dissonance in relational role clarity.

While this study goes some distance in shedding light on the impact of educational level on interprofessional collaboration, these findings should be interpreted within the context of complexities of collaboration. Undoubtedly, the other factors that influence collaboration, as described in Chapter One (personal, contextual, or other role factors such as status), were also at play here. For example, it may be that the current climate of health care restructuring and subsequent shifting of roles and functions influenced these results. Thus, the interpretation of these findings should not be done without due consideration to the potential influences of other factors.

Study Limitations

The limitations of the findings of this study are:

1) In spite of all efforts, the desired sample size was not reached. Instead of having 298 in each stratum, there were 174 (58.4% of the targeted number) in the Diploma/ Baccalaureate group and 205 (68.8% of the targeted number) in the Masters/Doctoral group. Although these numbers are large enough to provide some support for the findings, the results likely have limited predictive power.

2) There is the possibility that non-respondents differed significantly in their perceptions of collaboration from respondents.

3) It is possible that variations in role internalization and collaborative skill development impacted the results of this study.

4) As some instruments called for non-parametric tests it is possible that some significant differences were not detected.

5) While the groups created for this study (Diploma/Baccalaureate and Masters/Doctoral) likely maximized the effect of educational level and few differences were detected within

each group, the over-representation of Diploma prepared participants and Masters prepared participants may have impacted the validity of the results.

Implications

This study has implications for nursing research, the discipline, practice, and education. These are presented here.

While this study provided some clarity about the impact of educational level and professional identity on collaboration, the results point to other areas for investigation. Additional collaboration studies using educational preparation as the primary variable should be done to see if the findings from this study hold true in other jurisdictions. There may be some value to including one or more of the collaboration dimensions used in this study as this would enhance understanding of this complex construct. In that regard, consideration should be given to the appropriateness of the IPS instrument for assessing practice spheres, as well as Gordon's nursing diagnoses for assessing patient care goals. It would also be useful to know if the results pertaining to power/control would hold true in studies of nurses' collaboration with specific professions other than medicine. However, it may be that future studies of collaboration carried out in a post-health care reform environment would be better served by an alternate conceptualization of collaboration and different instruments. More research needs to be done on the relationship between professional identity and collaboration, and further work on the subscales of Stone's Health Care Professional Attitude Inventory needs to be carried out. Instrument development that would decrease reliance on nonparametric testing would contribute to the credibility of collaboration research studies. Finally, studies designed to take into account the complex nature of collaboration studies are needed. For example, studies that include the perspectives of other disciplines such as social work or pharmacy would shed further light on the complex nature of interprofessional collaboration.

The findings suggesting lack of clarity about patient care goals have implications for the development of the discipline. These results, as well as those of Weiss (1983), Bournazos (1993), and Waters and Luker (1991), suggest nursing should not lose sight of the need to articulate its unique role. The close links between role clarity and power/control, territoriality, and autonomy further reinforce the importance of addressing this issue.

As this study produced some evidence that level of education has a positive impact on collaboration, care environments that rely on interprofessional cooperation (intensive care, geriatrics, rehabilitation) may well be advised to consider the place of graduate prepared nurses in their staffing patterns. Additionally, nurses employed or seeking employment, in such areas may want to consider graduate preparation in their career plans.

The impact of educational level on collaboration, along with the imbalance between Diploma and Baccalaureate prepared participants, lends some support to the Baccalaureate degree as entry to nursing practice. If a larger portion of the Diploma/Baccalaureate group had been prepared at this level the gap between the two educational groups may have been less. The participants' unfavorable perceptions of others' view of nurses' educational preparation further reinforce the need for continued efforts to enhance the educational preparation of nurses.

This study reinforces the need for interprofessional educational to be incorporated into the initial preparation of nurses and other health professionals. While a review of successful educational initiatives is beyond the scope of this study, Fagin (1992) outlines education interventions that include formal programming, faculty, and the work place. He recommends educational reforms such as interdisciplinary education and collaborative clinical experiences, faculty initiatives including involvement in patient care and interdisciplinary research, and the formalization of opportunities for staff to learn from each other. In particular, the findings of this study suggest that, along with specialized

nursing courses, graduate nursing programs should include interprofessional learning and research experiences. Broad educational initiatives such as these are needed in order to prepare professionals for today's complex health care environment. As Sullivan (1998) notes:

> Health-care professionals cannot be prepared for this new world in the old world of disciplinary isolation; only collaborative, interdisciplinary experiences will adequately prepare tomorrow's practitioners for the complex, dynamic, and ever-changing reality of their health care future (p.421).

In conclusion, as noted at the beginning of this study, many factors are compelling nurses to develop collaborative relationships with other health professionals. Of particular significance is the inclusion of interprofessional collaboration in the competencies of the AARN Continuing Competence Program (Alberta Association of Registered Nurses, 2001). In the future, Alberta RNs will be required to demonstrate competence in collaborating in care delivery, in team communication, delegation, and in explaining nursing care to others. They will also be accountable for taking initiative in resolving team conflict, for sharing their knowledge with others and for creating an environment that promotes cooperation and mutual trust (Alberta Association of Registered Nurses). These requirements will undoubtedly lead to a greater emphasis on collaborative research, practice and education. New ways of working, including knowledge work (Drucker, 1999) learning organizations (Senge, 1990), case management, and critical paths require professionals with both strong disciplinary and interdisciplinary skills (Sorrells-Jones & Weaver, 1999a; Sorrells-Jones & Weaver, 1999b; Wells, Johnson, & Salyer, 1998). Therefore, the challenge for nursing is, as stated by Petrie (1976), to develop the right balance between disciplinary competence and security, and broad interests and imagination. If this can be accomplished, nurses will not only

be effective collaborators but their unique contribution to health and health care will be substantiated.

BIBLIOGRAPHY

Alberta Association of Registered Nurses (1993). Relationship between nursing practice and the practice of other health care professions. AARN Newsletter, 49(7), 9-11.

Alberta Association of Registered Nurses (2001). AARN continuing competence organizer. Author.

Alt-White. C., Charns, M., & Strayer, R. (1983). Personal, organizational and managerial factors related to nurse-physician collaboration. Nursing Administration Quarterly, Fall, 8-18.

American Nurses' Association (ANA) (1980). Nursing: A social policy statement. Author.

Ardine, C., & Pridham, K. (1973). Model for collaboration. Nursing Outlook, 21(10), 655-657.

Arslanian-Engoren, C.M.(1995). Lived experiences of CNSs who collaborate with physicians: A phenomenological study. Clinical Nurse Specialist, 9(2), 68-74.

Armstrong, P., & Armstrong, H. (1996). Wasting away: The undermining of Canadian health care. Toronto: Oxford Press.

Aulbach, R. (1983). Nurses perceptions of work-related powerlessness related to nursing commitment.Unpublished masters thesis,Texas Woman's University, Denton.

Baggs, J.D., & Mick, D.J.(2000). Collaboration: A tool for addressing ethical issues for elderly patients near the end of life in intensive care units. Journal of Gerontological Nursing, 26(9), 41-47.

Baggs, J.D., & Ryan, S.A. (1990). ICU nurse-physician collaboration and nursing satisfaction. Nursing Economics, 8(6), 386-392.

Baggs, J.D., Ryan, S.A., Phelps, C.E., Richeson, J.F., & Johnson, J.E. (1992). The association between interdisciplinary collaboration and patient outcomes in a medical intensive care unit. Heart & Lung, 21(1), 18-24.

Baggs, J.D., & Schmitt, M.H. (1995). Intensive care decisions about level of aggressiveness of care. Research in Nursing and Health, 20, 71-80.

Baggs, J.D., & Schmitt, M.H. (1997). Nurses' and resident physicians' perceptions of the process of collaboration in an MICU. Research in Nursing and Health, 18(4),345-355.

Ben-Sira, Z., & Szyf, M. (1992). Status inequality in the social worker-nurse collaboration in hospitals. Social Science and Medicine, 34(4), 365-374.

Benson, L., & Ducanis, A. (1995). Nurses' perceptions of their role and role conflicts. Rehabilitation Nursing, 20(4), 204-212.

Biddle, B. (1986). Recent developments in role theory. Annual Review of Sociology, 12, 67-92.

Booth, R. Z. (1983). Power: A negative or positive force in relationships? Nursing Administration Quarterly, Summer, 10-20.

Bournazos, C. (1993). The relationship of interprofessional perceptions and collaborative practice behavior in health care personnel. Unpublished doctoral dissertation, New York University.

Bush, J. (1984). The relationship of locus of control, powerlessness, and job satisfaction as perceived by nurses in their professional practice. Unpublished doctoral dissertation,University of San Francisco.

CAUSN (2001). CAUSN position statements on education. [On line]. Available: http://www.causn.org

Calkin, J. (1988). Specialization in nursing practice. In A. Baumgart & J. Larsen (Eds.), Canadian nursing faces the future: Development and change. (pp.279-296). Toronto: CV Mosby.

Christman, L. (1991). Perspectives on role socialization of nurses. Nursing Outlook, 39(5), 209-212.

Cohen, J. (1977). Statistical power analysis for the behavioral sciences. (Revised ed.). New York: Academic Press.

Conway, M. (1988a). Organizations, Professional Autonomy, and Roles. In M. Hardy & M. Conway (Eds.), Role theory: Perspectives for health professionals. (2nd ed., pp. 111-132.). San Mateo, CA: Appleton & Lange.

Conway, M. (1988b). Theoretical approaches to the study of roles. In M. Hardy & M. Conway (Eds.), Role theory: Perspectives for health professionals. (2nd ed., pp. 63-72.). San Mateo, CA: Appleton & Lange.

Corwin, R. (1961). Professional employee: A study of conflict in nursing roles. American Journal of Sociology, 66, 604-615.

Cowles, L., & Lefcowitz, M. (1992). Interdisciplinary expectations of the medical social worker in the hospital setting. Health and Social Work, 17(1), 57-65.

Crosby, R., Ventura, M., & Feldman, M. (1989). Examination of a survey methodology: Dillman's Total Design Method. Nursing Research, 38(1), 56-58.

Daghestani, A.(1991). A comparison of power orientation and power motivation of female nurse managers and other female managers in Jordan. Unpublished doctoral dissertation, University of Illinois at Chicago.

Dillman, D. (1978). Mail and telephone surveys: The total design method. New York: John Wiley & Sons.

Downey, R., & King, C. (1998). Missing data in Likert rating: A comparison of replacement methods. Journal of General Psychology, 125(2), 175-191.

Drucker, P. (1999). Management challenges for the 21st century. New York: Harper Business.

Ducanis, A., & Golin, A. (1979). The interdisciplinary health care team: A handbook. Rockville, MT: Aspen.

Egan, M., & Kadushin, G. (1995). Competitive allies: Rural nurses' and social workers' perceptions of the social work role in the hospital setting. Social Work in Health Care, 20(3), 1-23.

Elovainio, M., & Kivimaki, M. (1996). Occupational stresses, goal clarity, control, and strain among nurses in the Finnish health care system. Research in Nursing and Health, 19, 517-524.

Fagin, C. (1992). Collaboration between nurses and physicians: No longer a choice. Academic Medicine, 67(5), 295-303.

Feiger, F.M., & Schmitt, M.H. (1979). Collegiality in interdisciplinary health teams: Its measurement and its effect. Social Science and Medicine, 13A, 217-229.

Furnham, A., Pendleton, D., & Manicom, C. (1981). The perception of different occupations within the medical profession. Social Science & Medicine 15E, 289-300.

Gordon, M. (1994). Nursing diagnosis: Process and application. (3rd ed.). Toronto: McGraw-Hill.

Guilbert, E. (1972). Health care work powerlessness scale (Revised). In M. Ward & C. Lindeman (Eds.), Instruments for measuring nursing practice and other health care variables.(pp.37-40). Hartsville, MT: US Department of Health, Education, and Welfare.

Hammond, K., Bandak, A., & Williams, M. (1999). Nurse, physician, and consumer role responsibility perceived by health care providers. Holistic Nursing Practice, 13(2), 28-37.

Hansen, H.E., Bull, M.J., & Gross, C.R. (1998). Interdisciplinary collaboration and discharge planning communication for elders. Journal of Nursing Administration, 28(9), 37-46.

Harbison, J., & Melanson, P. (1987). Interdisciplinary collaboration between the professional social worker and nurse in planning the care of the older adult living in a long-term care facility. Canadian Journal on Aging, 6(2), 155-169.

Hardy, M.E., & Hardy, W.L. (1988) Development of scientific knowledge. In M. Hardy & M. Conway (Eds.), Role theory: Perspectives for health professionals. (2nd ed., pp. 29-62). San Mateo, CA: Appleton & Lange.

Henneman, E., Lee, J., & Cohen, J. (1995). Collaboration: A concept analysis. Journal of Advanced Nursing, 21, 103-109.

Hillery, S. (1991). Factors associated with professional role socialization of nurses. Unpublished doctoral dissertation, Iowa State University.

Hurley-Wilson, B. (1988). Socialization for roles. In M. Hardy & M. Conway (Eds.), Role theory: Perspectives for health professionals. (2nd ed., pp.73-110). San Mateo, CA: Appleton & Lange.

Ivey, S., Brown, K., Teske, Y., & Silverman, D. (1988). A model for teaching about interdisciplinary practice in health care settings. Journal of Allied Health, 189-195.

Jones, R. (1991). Nurse-physician collaboration and outcomes of care. Unpublished doctoral dissertation, Indiana University School of Nursing.

Kane, R.(1975). Interprofessional teamwork. Syracuse, NY: Syracuse University.

Kertesz, J. (1980). Permeability of individual boundaries- A critical factor for effective functioning of interdisciplinary health care teams. In Dewitt, Rowley, & Williams (Eds.), Interdisciplinary health care teams in teaching and practice. (pp.23-27). New Health Perspectives.

Kramer, M. (1968). Nurse role deprivation: A symptom of needed change. Social Science and Medicine, 2 461-474.

Kulys, R., & Davis, S. (1987). Nurses and social workers: Rivals in the provision of social services? Health and Social Work, Spring, 101-112.

Lawler, T. (1988). Measuring socialization to the professional nursing role. In O. Strickland & C. Walz (Eds.), Measurement of nursing outcomes. Volume Two. Measuring nursing performance: Practice, education and research. (pp. 32-52). New York: Springer.

Loxley, A. (1997). Collaboration in health and welfare: Working with difference. London, England: Jessica Kingsley Publishers.

Lum, J. (1988). Reference groups and professional socialization. In M. Hardy & M. Conway (Eds.), Role theory: Perspective for health professionals. (2nd ed., pp.257-272). San Mateo, CA: Appleton & Lange.

Lynn, M.R., McCain, N.L., & Boss, B.J. (1989). Socialization of RN to BSN. Image: Journal of Nursing Scholarship, 21(4), 232-237.

Lynn, M. (1986). Determination and quantification of content validity. Nursing Research, 35(6), 382-385.

Maltby, H. J., & Andrusyszyn, M. A. (1997). In my opinion: Perspective transformation: Challenging the resocialization concept of degree-seeking registered nurses. Nurse Educator, 22(2), 9-11.

Mariano, C. (1989). The case for interdisciplinary collaboration. Nursing Outlook, 37(6), 285-288.

Miller, J. (1987). Aging content in nursing curricula. Unpublished master's thesis, The University of Calgary.

Northouse, P., & Northouse, L. (1992). Health communication: Strategies for health professionals. Toronto: Prentice Hall.

O'Connor, S. (1993). Nursing and rehabilitation: The interventions of nurses in stroke patient care. Journal of Clinical Nursing, 2, 29-34.

Odynak, D.(1987). A guide to the unknown missing data in sample surveys. Research Discussion Paper No. 50. University of Alberta.

Orlando, I., & Dugan, A. (1989). Independent paths: The fundamental issue for the nursing profession. Nursing and Health Care, 10, 77-80.

Pehl, L.K.H. (1988). Development of an instrument to measure perceptions of collaboration between nursing deans and nursing service administrators. Unpublished doctoral dissertation, University of Texas at Austin.

Petrie, H. (1976).Do you see what I see? The epistemology of interdisciplinary inquiry. Journal of Aesthetic Education, 10(1), 29-43.

Po, J. (1985). Powerlessness among staff nurses employed in auxiliary and nursing service departments. Texas Woman's University.

Reinhart, M. (1988). Nurses' perceptions of organizational power in relation to educational preparation. Indiana Univeristy.

Reutter, L., Field, P.A., Campbell, I.E., & Day, R. (1997). Socialization into nursing: Nursing students as learners. Journal of Nursing Education, 36)(4), 149-155.

Ryan, A., & McKenna, H. (1994). A comparative study of the attitudes of nursing and medical students to aspects of patient care and the nurse's role in organizing that care. Journal of Advanced Nursing, 19(1), 114-123.

Sands, D., & Ismeurt, R. (1986). Role alienation: Staff nurses and powerlessness. Nursing Management, 17(5), 420-423.

Santora, D., & Steiner, H. (1982). School nurses and powerlessness. The Journal of School Health, 52(7),428-431.

Seeman, M., & Evans, J. (1962). Alienation and learning in the hospital setting. American Sociological Review, 27, 772-782.

Senge, P.M. (1990). The fifth discipline: The art and practice of the learning organization. New York: Doubleday Publishers.

Siegler, E., & Whitney, F. (1994). What is collaboration? In E. Siegler & F. Whitney (Eds.), Nurse-physician collaboration: Care of adults and the elderly. (pp.3-10). New York: Springer Publishing.

Skipper, J. (1962). "Functional significance" of the nurse role: An evaluation. Journal of Health and Human Behavior, 3(1), 41-45.

Smith, M. (1992). The distinctiveness of nursing knowledge. Nursing Science Quarterly, 5(4), 148-149.

Sorrells-Jones, J., & Weaver, D. (1999a). Knowledge workers and knowledge-intense organizations: A promising framework for nursing and healthcare, Part 1. Journal of Nursing Administration, 29(7/8), 12-18 & 37.

Sorrells-Jones, J., & Weaver, D. (1999b). Knowledge workers and knowledge-intense organizitions: Implications for preparing healthcare professionals, Part 3. Journal of Nursing Administration, 29(10), 14-21.

Stamps, P.L., & Piedmonte, E.B. (1986). Nurses and work satisfaction. Ann Arbor: Health Administration Press.

Steel, J. (1986). An Overview. In J. Steel (Ed.), Issues in collaborative practice. (pp. 3014). New York: Harcourt, Brace Jovanovich.

Stemple, J. (1988). Measuring nursing care role orientation. In O. Strickland & C. Walz (Eds.), Measurement of nursing outcomes, Volume Two, Measuring nursing performance: Practice, education and research. (pp. 19-31). New York: Springer.

Stinson, S., Field, P.A., & Thibaudeau, M. (1988). Graduate education in nursing.In A. Baumgart & J. Larsen (Eds.), Canadian nursing faces the future: Development and change. (pp.337-361). Toronto: CV Mosby.

Sullivan, T.J. (1998). Collaboration: A health care imperative.Toronto: McGraw-Hill.

Temkin-Greener, H. (1983). Interprofessional perspectives on teamwork in health care: A case study. Milbank Memorial Fund Quarterly/Health and Society, 61(4), 641-658.

Thomas, K., & Kilmann, R. (1978). Comparison of four instruments measuring conflict. Psychological Reports, 42,1139-1145.

Tibbles, L. (1983). Selected correlates of nurse managers' sense of power in the hospital setting. Unpublished doctoral dissertation, University of Connecticut.

Verschuren, P.J.M., & Masselink, H. (1997). Role concepts and expectations of physicans and nurses in hospitals. Social Science Medicine, 45(7), 1135-1138.

Wallston, K., Wallston, B., & Devellis, R. (1978). Development of the multidimensional health locus of control scales. Health Education Monographs, 6,161-170.

Waters, K., & Luker, K. (1996). Staff perceptions on the role of the nurse in rehabilitation wards for elderly people. Journal of Clinical Nursing, 5, 105-113.

Wells, N., Johnson, R., & Salyer, S. (1998). Interdisciplinary collaboration. Clinical Nurse Specialist, 12(4), 161-168.

Weiss, S. (1983). Role differentiation between nurse and physician: Implications for nursing. Nursing Research, 32(3), 133-139.

Weiss, S. (1984). Educating the nursing profession for role transformation. Journal of Nursing Education, 23(1), 9-14.

Weiss, S. (1985). The influence of discourse on collaboration among nurses, physicians, and consumers. Research in Nursing and Health, 8, 49-59.

Weiss, S., & Davis, H. (1983). The health role expectation index: A measurement of alignment, disparity, and change. Journal of Behavioral Medicine, 6(1), 63-76.

Weiss, S., & Davis, H. (1985). Validity and reliability of the collaborative practice scales. Nursing Research, 34, 299-305.

Weiss, S., & Remen,N. (1983). Self-limiting patterns of nursing behavior within a tripartite context involving consumers and physicians. Western Journal of Nursing Research, 5(1), 77-89.

Wood, M.J., & Brink, P.J. (1998).Comparative designs. In P.J. Brink & M.J.Wood (Eds.), Advanced design in nursing research, (2nd ed., pp.143-159) Thousand Oaks California, CA: SAGE.

APPENDICES

Appendix A: The Survey

NURSES AND THEIR COLLABORATION WITH OTHER HEALTH PROFESSIONALS

Although we all know interprofessional collaboration is important to patient care, little is known about what contributes to effective collaboration. The purpose of this study is to see if education and professional identity impact on collaboration.

Jean Miller, RN. Ph.D. (C)
Faculty of Nursing
University of Alberta

INSTRUCTIONS: In this survey you answer a series of short closed-ended questions that are divided into six sections. The first four sections contain questions related to each of four dimensions of collaboration: safeguarding of concerns, patient care goals, practice spheres, and power/control. The fifth section has questions about professional identity, and the last section has questions about your professional background and experience. Specific instructions are provided at the beginning of each section. You have the right to refuse to answer any of the questions.

In this survey the term 'collaboration' refers to cooperative joint efforts among health professionals around patient care. The terms 'patient' and 'client' are used interchangeably.

When you are finished this survey, place it in the enclosed self-addressed, stamped envelope immediately and drop it in a mailbox.

---

1. First, indicate which of the following health professionals you normally communicate with: (This may be face-to-face or over the phone) *Circle all that apply.*

    1. Physicians
    2. Social Workers
    3. Physiotherapists
    4. Occupational Therapists
    5. Psychologists
    6. Nutritionists
    7. Clergy
    8. Pharmacists
    9. Recreation Therapists
    10. Respiratory Therapists
    11. Licensed Practical Nurses
    12. Speech Language Pathologists
    13. Others: (*Please List All Below*)

SECTION ONE: SAFEGUARDING OF CONCERNS

Now I want you to think about how you relate to other health professionals as you practice nursing. If you work in more than one area, think about the one in which you have the most interaction with other professionals.

Please respond to each item by circling the number for the response that best describes what you do. If you choose a number to the left, you are indicating that you never or seldom act in the manner described. If you choose a number to the right, you are indicating that you frequently or always act in the manner described.

2. I ask other health professionals about their expectations regarding the degree of my involvement in health care decisions.

   1 2 3 4 5 6
   Never **Always**

3. I negotiate with other health professionals to establish our respective responsibilities for discussing different kinds of information with patients.

   1 2 3 4 5 6
   Never **Always**

4. I clarify the scope of my professional expertise when it is greater than what other health professionals think it is.

   1 2 3 4 5 6
   Never **Always**

5. I discuss with other health professionals the degree to which I want to be involved in planning aspects of patient care.

   1 2 3 4 5 6
   Never **Always**

6. I suggest to other health professionals, patient care approaches that I think would be useful.

   1 2 3 4 5 6
   Never **Always**

7. I discuss with other health professionals, areas of practice that reside more within the realm of nursing than within the realms of other professions.

   1 2 3 4 5 6
   Never **Always**

8. I tell other health professionals when, in my judgment, their orders seem inappropriate.

   1 2 3 4 5 6
   Never **Always**

9. I tell other health professionals about any difficulties I foresee in the patient's ability to deal with treatment options and their consequences.

   1 2 3 4 5 6
   Never **Always**

10. I inform other health professionals about areas of practice that are unique to nursing.

    1 2 3 4 5 6
    Never **Always**

11. I reinforce the value of the care given by other health professionals when I am talking to the patient.

    1 2 3 4 5 6
    Never **Always**

12. I ask other team members to assess what may be needed to strengthen the patient's support system.

    1 2 3 4 5 6
    Never **Always**

13. I discuss with other health professionals the similarities and differences between their approach to care and that of nurses.

    1 2 3 4 5 6
    Never **Always**

14. I consider the views of other health professionals when developing a treatment plan.

1 2 3 4 5 6
Never **Always**

15. I discuss areas of agreement and disagreement with other health professionals in an effort to develop mutually agreeable health care goals.

1 2 3 4 5 6
Never **Always**

16. I discuss with other health professionals the degree to which I think they should be involved in planning and implementing aspects of patient care.

1 2 3 4 5 6
Never **Always**

17. I work towards consensus with other health professionals regarding the best approach in caring for the patient.

1 2 3 4 5 6
Never **Always**

18. I discuss with other health professionals their expectations regarding the degree of their involvement in the health care decision-making process.

1 2 3 4 5 6
Never **Always**

19. I acknowledge other health professionals who, in some aspects of care, have more expertise than do I.

1 2 3 4 5 6
Never **Always**

20. I clarify whether myself or other health professionals will take the responsibility to discuss different kinds of information with the patient.

1 2 3 4 5 6
Never **Always**

SECTION TWO: PATIENT CARE GOALS

Now I want you to think about the health professions in general, rather than your particular work situation.

For each of the following patient care goals below, indicate whether you think it is primarily in the domain of nursing, or another profession, or shared between nursing and one or more professions (e.g. medicine, social work, therapies, pharmacy, recreation).

Patient Care Goals	Primarily Nursing Domain	Primarily Another Profession's Domain	Shared Domain
21. Promote client's effective health management practices			
22. Prevent infection			
23. Reduce risk of physical injury			
24. Promote client nutritional practices in balance with their needs			
25. Prevent fluid volume deficit/excess			
26. Promote skin integrity			
27. Promote elimination patterns within client's norm.			
28. Promote mobility			
29. Promote involvement in recreational & leisure activities			

Patient Care Goals	Primarily Nursing Domain	Primarily Another Profession's Domain	Shared Domain
30. Promote self-care abilities (e.g. dressing, eating)			
31. Promote home maintenance abilities			
32. Promote cardiac and respiratory functioning			
33. Promote effective sleep patterns			
34. Promote cognitive abilities (e.g. memory, problem solving)			
35. Prevent/manage acute and chronic pain			
36. Prevent/manage sensory deficit /overload			
37. Educate about health (or disease) management			
38. Promote client decision-making around health management matters			
39. Promote resolution of emotional disturbances (e.g. anxiety)			
40. Promote a healthy body image			
41. Promote client role performance (e.g., family, work, community roles)			
42. Promote social interaction (e.g., family, friends)			
43. Support the grieving process			
44. Promote family relationships that contribute to health			
45. Promote communication in those with impaired verbal skills			
46. Promote sexual functioning			
47. Promote the use of effective coping mechanisms (e.g. stress reduction)			
48. Promote spiritual well-being			

SECTION THREE: PRACTICE SPHERES

This next section has to do with your views about nurses in the health care environment. For each of these questions please circle the T for 'true' or the F for 'false' **in each of the two columns.**

	How do you view nurses		How do other health professionals view nurses	
Persons in nursing:				
49. are competent	T	F	T	F
50. have very little autonomy	T	F	T	F
51 understand the capabilities of other professions	T	F	T	F
52. are highly concerned with the welfare of their patients	T	F	T	F
53. sometimes encroach on other professional territories	T	F	T	F
54. are highly ethical	T	F	T	F
55. expect too much of other professions	T	F	T	F
56. have a higher status than other professionals	T	F	T	F
57. are very defensive about their professional prerogatives	T	F	T	F
58. trust others' professional judgments	T	F	T	F
59. seldom ask others' professional advice	T	F	T	F
60. fully use the capabilities of other professions	T	F	T	F
61. do not cooperate well with other professions	T	F	T	F
62. are well educated	T	F	T	F
63. have good relationships with other professions	T	F	T	F

SECTION FOUR: POWER/CONTROL

Now I want you to answer some questions about your work situation. For each of the questions in this section you are asked to select the one statement out of each pair of statements which you more strongly believe to be true. It is quite possible that in some cases you may not strongly agree with either statement in a pair. In these cases, please check the statement that comes closer to expressing the way you feel.

In each question circle **either** a **or** b. Be sure to circle the one which you actually believe to be more true, rather than the one you think you 'should' check, or the one you would like to be true. It is important that you choose one statement out of each pair. PLEASE DO NOT SKIP ANY QUESTION.

Remember that there are no 'right' or 'wrong' choices. It is your individual opinion that is most important. If you work in more than one area, please think about the area with which you are most familiar.

64. a In organizations/facilities such as the one in which I work, individuals have little chance of exerting any real influence on working conditions.
    b Even in organizations/facilities such as the one in which I work, the individual can influence working conditions, if that person makes her (his) ideas known.

65. a The type of treatment program a patient receives is decided by the doctor; there's really very little anyone else can do except go along with it.
    b Everyone who works with patients can have a real influence on what treatment approaches will be used.

66. a Some people are just lucky and seem to advance in their jobs by simply being in the right place at the right time.
    b Many people don't realize how much the cause of their failure to get ahead in their jobs is the result of their own work performance.

67. a It doesn't do much good to try to think of ways to improve conditions at work; you usually can't try new ideas anyway.
    b If you have a good idea about some way to improve conditions at work, you can usually get the backing you need in order to try it.

68. a It does little good to plan one's career too far ahead; some people get the breaks and some don't.
    b People are better off if they plan their careers and set goals for themselves rather than trusting fate.

69. a Individuals can influence established policies and procedures in my organization/facility if they make their own needs known.
    b Established policies and procedures in my organization/facility can't be changed for an individual's needs or problems.

70. a As a member of the treatment team I can have a real influence on the treatment program prescribed for patients.
    b Even though I am considered a member of the team, it's actually the doctors who decide what treatment the patient will receive.

71. a Whether or not a person gets ahead in his or her job depends mostly on luck and knowing the right people; there's really not much the individual can do about it to change this.
    b Whether or not a person gets ahead in his or her job depends mostly on whether that individual is well prepared and does a good job.

72. a I think people like myself can influence how things are run at my place of work.
    b It's rather silly to ask someone like myself to make suggestions about how things should be run at my place of work; people seldom pay any attention to them.

73. a When decisions are being made at my place of work, the opinions of the people affected by that decision do influence what is decided.
    b When decisions are being made at my place of work, the opinions of the people affected by them have little influence on what is decided.

74 a Offering valid complaints about one's work situation doesn't seem to do much good.
    b Offering valid complaints about one's work situation is usually helpful in bringing about needed changes.

75. a Persons like myself have little chance of protecting our professional interests when they are in conflict with those in positions of power.
    b I feel we have adequate ways of coping with those in positions of power and can protect our own professional interests.

76. a Employees where I work can usually participate in making important decisions related to their own work.
    b Employees where I work have little opportunity to participate in making important decisions related to their work.

77. a Organizational/facility-wide policies are made by those few people in power, and there is not much the individual employee can do to change this.
    b Individual employees can influence organizational/facility-wide policies.

SECTION FIVE: PROFESSIONAL IDENTITY

This part of the survey contains a series of questions about today's health professions and health care delivery systems. These statements are not intended to elicit a right or wrong answer; rather to collect <u>your perceptions</u> of the accuracy and/or validity of each statement. You are asked to read each statement. Then, utilizing the response scale provided, circle the number that indicates the degree to which you agree or disagree with each statement.

(*Health care delivery systems* are mechanisms and strategies designed to facilitate the delivery of health care to the consumer.)

78. Current health care delivery systems adequately meet the needs of society.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

79. The potential for a financially secure position is a major reason for pursuing a career in the health professions.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

80. There is inadequate interaction between health professionals and their client public when developing health care delivery systems.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

81. Students in the health professions should use their instructors as role models.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

82. Students in the health professions should incorporate the philosophy of their educational programs into their practice.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

83. Policies based solely on scientific methodology are most appropriate for the resolution of society's health care problems.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

84. The introduction of nurse practitioners and paramedical personnel has improved the delivery of health care.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

85. Health professionals, such as nurses, are generally impersonal and scientifically oriented.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

86. Health professionals generally fail to show adequate interest in the health needs of consumers.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

87. Criticism of health care practices and procedures by persons outside the professions is usually acknowledged and acted upon by health professionals.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

88. At this point in time, the consumers of health care have been adequately involved in the development of health care systems.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

89. Certification of competence (licensure/registration) upon receiving a professional diploma or degree is necessary to assure that behavioral sciences, basic sciences, and health care sciences are part of professional education.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

90. Education programs for health professionals spend more time preparing students for careers in research and/or teaching than for careers as practitioners.

1	2	3	4	5
Strongly Agree				Strongly Disagree

91. Education programs for health professionals have not been adequately responsive to the identified needs of local communities.

1	2	3	4	5
Strongly Agree				Strongly Disagree

92. Health care teams tend to become so busy coordinating care that they lose sight of patient needs.

1	2	3	4	5
Strongly Agree				Strongly Disagree

93. Priorities for the use of human and material resources in the health professions are best achieved through centralized decision-making.

1	2	3	4	5
Strongly Agree				Strongly Disagree

94. Health professionals have actively encouraged consumer participation in current delivery systems.

1	2	3	4	5
Strongly Agree				Strongly Disagree

95. Inefficient use of existing personnel poses a major problem for delivering adequate health care.

1	2	3	4	5
Strongly Agree				Strongly Disagree

96. The desire for a position of status should not be the reason for pursuing a career in the health professions.

1	2	3	4	5
Strongly Agree				Strongly Disagree

97. In order to alleviate health manpower shortages in certain geographical areas, health professionals should be encouraged to get involved in health care legislation.

1	2	3	4	5
Strongly Agree				Strongly Disagree

98. Special economic interests have too often had a negative influence on public health legislation.

1	2	3	4	5
Strongly Agree				Strongly Disagree

99. Currently, education programs for health professionals prepare them to appropriately respond to the needs of local communities.

1	2	3	4	5
Strongly Agree				Strongly Disagree

100. Health professional education programs offering certification (e.g., nurse practitioners, physician assistants) are alternatives that will result in more effective health care.

1	2	3	4	5
Strongly Agree				Strongly Disagree

101. Training greater numbers of health professionals to deliver primary care will be beneficial in meeting the long-term health needs of society.

1	2	3	4	5
Strongly Agree				Strongly Disagree

102. Health professionals have been actively promoting change in health care delivery systems to improve health care for all citizens.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

103. Currently, health care is selectively available to people at differing income levels.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

104. Health professionals have developed adequate self-evaluation procedures and techniques in the delivery of health care.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

105. Consumer involvement is essential in developing alternative health care delivery systems.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

106. Health care providers who work with professionals from other disciplines discover common purpose in providing adequate health care for all citizens.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

107. Societal class and social distinctions should be of no importance in a health care setting.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

108. Educational institutions have assumed a central role, not only in the education of professionals, but in determining the nature and quality of health care services provided to the community.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

109. The health professional such as a nurse should be concerned solely with clinical practice and not with social change in the community.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

110. Nursing educators are considered one source, rather than the ultimate source of information for their students.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

111. Consumer groups should play a minimal role in establishing standards or criteria to assess the quality of care provided to health care consumers.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

112. In health care education, students' knowledge and skills about delivery of health care needs more improvement than expanding their knowledge about disease.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

113. Current health care delivery systems allow health professionals to efficiently deliver services to meet the needs of individual consumers.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

114. To effect change in the delivery of health care services, the inability to alter attitudes is a greater obstacle than the lack of adequate finances

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

115. When cost accounting and systems research techniques are applied to health, it can be concluded that the health care needs of some citizens have not been adequately served.

1	2	3	4	5
Strongly **Agree**				Strongly **Disagree**

SECTION SIX: BACKGROUND INFORMATION

In this last section, please answer some questions about your educational background, your work, and your professional responsibilities and activities.

116. For each of the 4 **nursing** educational credentials below, indicate whether you have this credential by circling Yes or No. For each credential that you have, please indicate the name of the program/school and your year of graduation

*(Please Note: It is **very important** that I know whether or not you have each credential. The name of your program/school and year of graduation is optional.)*

Diploma in Nursing **YES NO**

_____ _____
(Program/School Name) (Year of Graduation)

Baccalaureate Degree in Nursing **YES N0**

_____ _____
(Program/School Name) (Year of Graduation)

Certificate (Post Diploma or Degree) in Nursing **YES NO**

_____ _____
(Program/School Name) (Year of Graduation)

Masters Degree in Nursing **YES NO**

_____ _____
(Program/School Name) (Year of Graduation)

Doctoral Degree in Nursing **YES NO**

_____ _____
(Program/School Name) (Year of Graduation)

117. For each of the 4 **non-nursing** educational credentials below, indicate whether you have this credential by circling Yes or No. For each credential that you have, please indicate what field (e.g. education, administration).

Certificate (Post Diploma or Degree) in another field YES NO

_____
(Field)

Diploma in another field YES NO

_____
(Field)

Baccalaureate Degree in another field YES NO

_____
(Field)

Masters Degree in another field YES NO

_____
(Field)

Doctoral Degree in another field YES NO

_____
(Field)

118. Circle the number that describes how many **years of nursing experience** you have had.

1. Less Than 1 Year
2. 1 - 5 Years
3. 6 - 10 Years
4. 11 - 15 Years
5. 16 - 20 Years
6. 21 - 25 Years
7. 26 - 30 Years
8. Over 30 Years

119. Circle the number that describes your **present place of employment.** If employed in more than one place, circle your **main** place of employment.

1. Hospital (General, Pediatric, Psychiatric)
2. Nursing Home/Long Term Care Center
3. Community Health Agency
4. Home Care/Visiting Care Agency
5. Rehabilitation Hospital
6. Other Type Of Hospital
7. Mental Health Center
8. Community Nursing Clinic
9. Physician's/Dentist's Office/Family Practice Unit
10. Business-Industry/Occupational Health
11. Self Employed/Independent Nursing Practice
12. Private Nursing Agency/Private Duty
13. Other_____
(Please Specify)

120. Circle the number, which indicates **how long you have worked in your present place of employment.**

1. Less Than 1 Year
2. 1 - 3 Years
3. 4 - 7 Years
4. 8 - 12 Years
5. Over 12 Years

121. Circle the number that describes **your position at your place of employment.** If you hold more than one position, circle your **main** position.

1. Staff/Community Health Nurse
2. Head Nurse/Unit Manager
3. Supervisor/Coordinator
4. Clinical Nurse Specialist
5. Office/Occupational Health Nurse
6. Researcher
7. Consultant
8. Other:_____
(Please Specify)

122. Circle the number that indicates **how long you have been in your present position.**

1. Less Than 1 Year
2. 1 - 3 Years
3. 4 - 7 Years
4. 8 - 12 Years
5. Over 12 Years

123. Circle the number that indicates your **primary area of nursing.**

1. General Medicine Or Surgery
2. Pediatrics/Maternal/Newborn
3. Psychiatric/Mental Health
4. Oncology/Palliative Care
5. Rehabilitation/Ambulatory Care
6. Operating/Recovery Room
7. Emergency/Critical/Intensive Care
8. Occupational Health
9. Home Health/Visiting Care
10. Geriatric/Gerontology
11. Community School Health
12. Other _____
(Please Specify)

Is there anything else you would like to tell me about nurses' collaboration with other health professionals? If so, please use this space for that purpose.

Thank you for the time and consideration you have given this survey. Your views will contribute greatly to our understanding of collaboration.

Please return this survey in the enclosed self-addressed, stamped envelope within the next 5 working days.

If you would like a copy of the results, complete the enclosed request form and return it with the survey. Your request will be removed from the envelope before the survey is passed on to me.

Sincere Thanks

Sources

Section One is Jones's (1991) adaptation of Weiss and Davis's (1985) "Collaborative Practice Scales". Permission to modify and use this tool has been granted by both Jones and Weiss.

Section Two is a modification of Jones's (1991) "Goals" tool. Permission to modify and use this tool has been granted by Jones.

Section Three is Ducanis and Golin's (1979) "Interprofessional Perception Scale". Permission to use this tool has been granted by Golin.

Section Four is a modification of Guilbert's (1972) "Health Care Work Powerlessness Scale". Permission to modify and use this tool has been granted by Guilbert.

Section Five is Lawler's (1988) adaptation of Stone's "Health Care Professional Attitude Inventory". Permission to use this tool has been granted by Springer Publishing Company, Inc., New York 10012

Appendix B: Letter to Participants

University of Alberta
Edmonton

Faculty of Nursing

Canada T6G 2G3

3rd Floor Clinical Sciences Building

August 24, 1998

Project Title: Educational Preparation, Professional Identity, and Collaboration

Dear Colleague,

I am doing a nursing Ph.D. and I am studying nurses and their collaboration with other health professionals. To that end, I invite you to share your views of your relationships with other health professionals.

Changes in patient/client needs and health care delivery are compelling us to collaborate. It has been said however, that collaboration is at best given lip service, and at worst, ignored. This can lead to fragmented care. It can also frustrate patients and professionals.

Two factors that may play a role in collaboration are educational preparation and professional identity. I am studying these two factors. Study results will help nurses plan their careers and develop nursing curricula.

I ask you to complete the enclosed survey. I am sending it to you through the AARN; they are assisting me in reaching participants for this study. Your name was randomly selected from the membership. Your survey has been assigned a number. You return your completed survey to a third person at my place of work. Please do not put your name or any other identifying information on the survey or the envelope. After one week the AARN will send you a post card thanking you for returning the survey and reminding you to send it in if you have not done so. Two weeks later I will let the AARN know the numbers of the surveys I have received. If yours is not among them, they will send you a replacement survey. This procedure means there is no way for me to identify you if you join the study.

I am the only one with access to the survey data. I will keep the surveys in a locked filing cabinet during the study and for 7 years thereafter. An ethics committee will approve any secondary analysis of the data.

The University of Alberta Health Research Ethics Administration Board has approved this study. The study meets the requirements of a Ph.D. in Nursing. When completed, I will submit it for publication.

This survey is not being sent to every AARN member. You have been chosen because you have a diploma/degree or an advanced degree in nursing, and your nursing practice includes patient/client care. Your views are needed for a true picture of nurses' collaboration.

You consent to be in this study by completing the survey. The survey will take approximately 50 minutes to complete. You have the right to refuse to answer any of the questions.

If you wish a summary of the study results, complete the enclosed request form and put it in the return envelope, along with the survey. Your request will be removed from the envelope before the survey is given to me.

You may also contact my advisor, Dr. Jan Ross Kerr, or Dr. Jan Lander, Associate Dean, Research, Faculty of Nursing, University of Alberta. Dr. Ross Kerr's phone number is 403-492-6253. Dr. Lander's is 403-492-6763.

You can also reach Dr. Ross Kerr, Dr. Lander, or myself by calling 1-800-240-6891 and leaving the name of the person to whom you wish to speak. Your name and number will be given to that person, who will return your call.

Thank you for considering this study. I look forward to receiving your completed survey.

Sincerely,

Jean Miller, RN, Ph.D.(C)

cc: Dr. Janet Ross Kerr
Dr. Jan Lander

Appendix C: Reminder Postcard

NURSES' COLLABORATION WITH HEALTH PROFESSIONALS

Recently, I sent you a survey about your relationships with other health professionals. Sincere thanks if you have already mailed your survey.

If you wish to join the study, but have not filled out the survey, please do so as soon as possible. Your views are needed for a true picture of nurses' collaboration.

If by some chance you did not receive the survey, or you have misplaced it, please call 1-800-240-6891 right now. Leave your name and address and one will be mailed to you right away.

Sincerely,

Jean Miller, Ph.D. (C)

Appendix D: Reminder Letter

University of Alberta
Edmonton

Faculty of Nursing

Canada T6G 2G3

3rd Floor Clinical Sciences Building

October 8, 1998

Project Title: Educational Preparation, Professional Identity, and Collaboration

Dear Colleague,

A short while ago I sent you a letter inviting you to share your views of your relationships with other health professionals. As I have not heard from you, I thought your survey might have gotten misplaced. As your views are important to my study, I am sending you a replacement survey.

Changes in patient/client needs and health care delivery are compelling us to collaborate. It has been said however, that collaboration is at best given lip service, and at worst, ignored. This can lead to fragmented care. It can also frustrate patients and professionals.

Two factors that may play a role in collaboration are educational preparation and professional identity. I am studying these two factors. Study results will help nurses plan their careers and develop nursing curricula.

I ask you to complete the enclosed survey. I am sending it to you through the AARN; they are assisting me in reaching participants for this study. Your name was randomly selected from the membership. Your survey has been assigned a number. You return your completed survey to a third person at my place of work. Please do not put your name or any other identifying information on the survey or the envelope. This procedure means there is no way for me to identify you if you join the study.

I am the only one with access to the survey data. I will keep the surveys in a locked filing cabinet during the study and for 7 years thereafter. An ethics committee will approve any secondary analysis of the data.

The University of Alberta Health Research Ethics Administration Board has approved this study. The study meets the requirements of a Ph.D. in Nursing. When completed, I will submit it for publication.

This survey is not being sent to every AARN member. You have been chosen because you have a diploma/degree or an advanced degree in nursing, and your nursing practice includes patient/client care. Your views are needed for a true picture of nurses' collaboration.

You consent to be in this study by completing the survey. The survey will take approximately 50 minutes to complete. You have the right to refuse to answer any of the questions.

If you wish a summary of the study results, complete the enclosed request form and put it in the return envelope, along with the survey. Your request will be removed from the envelope before the survey is given to me.

If you have any questions when you are completing the survey, please contact me:

3223 Kenmare Crescent SW
Calgary, Alberta, T3E 4R4

work phone: 403-240-6880
work fax: 403-240-5970

email: jmiller@mtroyal.ab.ca

You may also contact my advisor, Dr. Jan Ross-Kerr, or Dr. Jan Lander, Associate Dean, Research, Faculty of Nursing, University of Alberta. Dr. Ross-Kerr's phone number is 403-492-6253. Dr. Lander's is 403-492-6763.

You can also reach Dr. Ross-Kerr, Dr. Lander, or myself by calling 1-800-240-6891 and leaving the name of the person to whom you wish to speak. Your name and number will be given to that person, who will return your call.

Thank you for considering this study. I look forward to receiving your completed survey.

Sincerely,

Jean Miller, RN, Ph.D.(C)

cc: Dr. Janet Ross-Kerr
Dr. Jan Lander

Appendix E: Mutual Safeguarding of Concerns Scoring Grid

APPENDIX I

Mutual Concerns Scoring System and Grid

The score for mutual concerns is assigned using the following rules as per Jones (1991):

1. If the cooperativeness (coop) is less than or equal to 25 and assertiveness (assert) is less than or equal to 24 then concern equals 0.

2. If the coop is less than or equal to 25 and assert is greater than 24 and less than or equal to 39 then concern equals 1.

3. If coop is less than or equal to 25 and assert is greater than 39 then concern equals 2.

4. If coop is greater than 25 and less than or equal to 44 and assert is less than or equal to 24 then concern equals 1.

5. If coop is greater than 25 and less than or equal to 44 and assert is greater than 24 and less than or equal to 39 then concern equals 2.

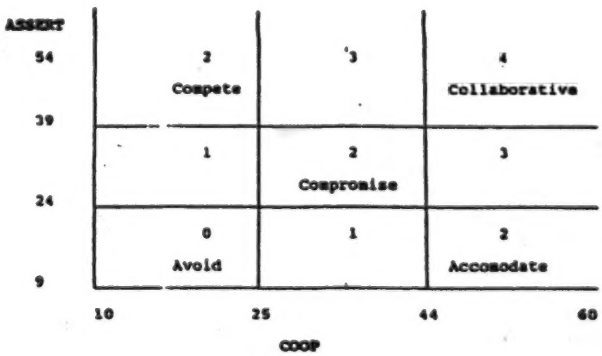
6. If coop is greater than 25 and less than or equal to 44 and assert is greater than 39 then concern equals 3.

7. If coop is greater than 44 and assert is less than or equal to 24 then concern equals 2.

8. If coop is greater than 44 and assert is greater than 24 and less than or equal to 39 then concern equals 3.

9. If coop is greater than 44 and assert is greater than 39 then concern equals 4.

Mutual Concerns Grid:



Jones, R. (1991). Nurse-physician collaboration and outcomes of care. Unpublished doctoral dissertation, Indiana University School of Nursing, Indiana, USA. (Used with permission)